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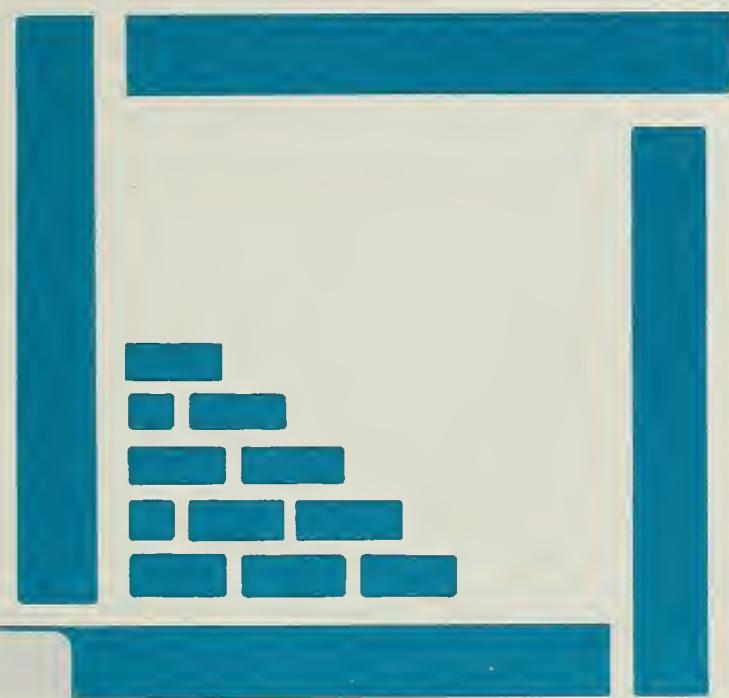
1987 Census of Construction Industries

CC87-I-25

INDUSTRY SERIES

Installation or Erection of Building Equipment Special Trade Contractors, Not Elsewhere Classified

Industry 1796



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The overall planning and review of the census operations were performed by the staff of the Office of the Assistant Director for Economic and Agriculture Censuses.

This report was prepared in the Construction Statistics Division. **Barry A. Rappaport**, Assistant Division Chief for Industry Surveys, was responsible for the overall planning, management, and coordination of the census of construction industries. Planning and implementation were under the direction of **A. William Visnansky**, Chief, Census Operations Branch, with primary staff assistance by **Juliana Van Berkum**, **Barbara J. Hadden**, **Edward R. Glover**, **Susan L. Hostetter**, **Shirley M. Baker**, and **Carolyn J. Stone**. Under the direction of **Jesse Pollock**, **Edward K. Ricketts** and **Dennis K. Duke** developed the sampling plans and variance and estimation specifications.

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If you have any questions concerning the statistics in this report, call (301) 763-7546.

1987

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Issued January 1990



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PURPOSE AND USES OF THE ECONOMIC CENSUSES

The economic censuses are the major source of facts about the structure and functioning of the Nation's economy. They provide essential information for government, business, industry, and the general public.

Economic censuses furnish an important part of the framework for such composite measures as the gross national product, input-output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions.

Policy-making agencies of the Federal Government use the data, especially in monitoring economic activity and providing assistance to business.

State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.

Trade associations study trends in their own and competing industries, and keep their members informed of market changes.

Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

AUTHORITY AND SCOPE

Title 13 of the United States Code (sections 131, 191, and 224) directs the Census Bureau to take the economic censuses every 5 years, covering years ending in 2 and 7. The 1987 Economic Censuses consist of the—

- Census of Retail Trade
- Census of Wholesale Trade
- Census of Service Industries
- Census of Transportation
- Census of Manufactures
- Census of Mineral Industries
- Census of Construction Industries

Special programs also cover enterprise statistics and minority-owned and women-owned businesses. (The 1987 Census of Agriculture and 1987 Census of Governments are conducted separately.) The next economic censuses are scheduled to be taken in 1993 covering the year 1992.

AVAILABILITY OF THE DATA

The results of each of the economic censuses are available in printed reports, for sale by the U.S. Government Printing Office, and on microfiche, computer tape, compact discs with read-only memory, and flexible diskettes, for sale by the Census Bureau. Order forms for all types of products are available on request from Customer Services, Census Bureau, Washington, DC 20233. A more complete description of publications being issued from this census is on the inside back cover of this document.

Census facts are also widely disseminated by trade associations, business journals, and newspapers. Volumes containing census statistics are available in most major public and college libraries. Finally, State Data Centers in every State and Business and Industry Data Centers in many States also supply economic census statistics.

WHAT'S NEW IN 1987

Several changes have taken place for the 1987 censuses. Data will be reported on the basis of the newly revised Standard Industrial Classification (SIC) system with selected reports including "bridge tables," linking the old and new classification systems. A new set of metropolitan

areas has been adopted, and more detailed information will be available for businesses with no paid employees. For additional information on these changes, review the subsequent text.

One important change involves receipts of contractors and builders. Prior to 1987, the Census of Construction Industries collected receipts as the primary measure of construction activity. For 1987, the census collected the "value of construction work done" to better measure actual construction activity done during the year. Differences between the two concepts occur when work is done in one year and payment received either from the prior or in the succeeding year. In addition, receipts do not include work a contractor performs for its own account and use.

HISTORICAL INFORMATION

The economic censuses have been taken together as an integrated program at 5-year intervals since 1967, and before that for 1963, 1958, and 1954. Prior to that time, the individual censuses were taken separately at varying intervals.

The economic censuses trace their beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for 1840 and subsequent censuses to include mining and some commercial activities. In 1902, Congress established a permanent Census Bureau and directed that a census of manufactures be taken every 5 years. The 1905 manufactures census was the first time a census was taken apart from the regular every-10-year population census.

The first census of business was taken in 1930, covering 1929. Initially it covered retail and wholesale trade, and construction industries, but it was broadened in 1933 to include some of the service trades.

The 1954 economic censuses were the first to be fully integrated—providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. These were the first censuses to be taken by mail, using lists of firms provided by the administrative records of other federal agencies. Since 1963, administrative records have also been used to provide basic statistics as well for very small firms, reducing or eliminating the need to send them census questionnaires. The Enterprise Statistics Program, which publishes combined data from the economic censuses, was made possible with the implementation of the integrated census program in 1954.

The range of industries covered in the economic censuses has continued to expand. The Census of Construction Industries began on a regular basis in 1967, and the scope of service industries was broadened in 1967, 1977, and 1987. The Census of Transportation began in 1963 as a set of surveys covering travel, transportation of commodities, and trucks. New for 1987 are publications reporting on business establishments engaged in several transportation industries, paralleling the data on establishments in

other sectors. This is part of a gradual expansion in coverage of industries previously subjected to government regulation. The Survey of Minority-Owned Business Enterprises was first conducted as a special project in 1969 and was incorporated into the economic censuses in 1972 along with the Survey of Women-Owned Businesses.

Economic censuses have also been taken in Puerto Rico since 1909, in the Virgin Islands and Guam since 1958, and in the Northern Mariana Islands since 1982.

Statistical reports from the 1982 and earlier censuses provide historical figures for the study of long-term time series, and are available in some large libraries. All of the census data published since 1967 are still available for sale on microfiche from the Census Bureau.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

While the censuses provide complete enumerations every 5 years, there are many needs for more frequent data as well. The Census Bureau conducts a number of monthly, quarterly, and annual surveys, the results of which appear in publication series such as *Current Construction Reports* (building permits, housing starts, and value of new construction put in place), *Current Business-Reports* (retail and wholesale trade and service industries), the *Annual Survey of Manufactures*, *Current Industrial Reports*, and the *Quarterly Financial Report*. Most of these surveys, while providing more frequent observations, yield less kind-of-business and geographic detail than the censuses. The *County Business Patterns* program offers annual statistics on the number of establishments, employment, and payroll classified by industry within each county.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1987 Economic Censuses and Related Statistics*. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1987 Economic Censuses*. Contact Customer Services for information on availability.

CENSUS OF CONSTRUCTION INDUSTRIES—SCOPE AND CLASSIFICATION

The 1987 Census of Construction Industries covers all employer establishments (establishments with payroll) primarily engaged in contract construction, construction on their own account for sale, or in subdividing real property

into lots as defined in the 1987 Standard Industrial Classification (SIC) Manual.¹ This industrial classification system has been developed by experts on classification in government and private industry under the guidance of the Office of Management and Budget and is in general use among government agencies and among organizations outside the government.

Contract construction—The SIC manual defines construction in three broad types of activity that follow:

1. **Building construction by general contractors or by operative builders**—General building contractors are primarily engaged in the construction of dwellings, office buildings, stores, farm buildings, and other building projects. Operative builders who build on their own account for sale are also included here. However, investment builders who build structures on their own account for rent are classified in Real Estate.
2. **Heavy construction general contractors**—Heavy construction general contractors are primarily engaged in the construction of highways, bridges, pipelines, sewers and water lines, marine construction, power, and petro-chemical plants and other nonbuilding construction projects. Special trade contractors are classified in heavy construction if they are specifically engaged in the following activities: grading for highway and airport runways; guardrail construction; installation of highway signs; asphalt and concrete construction of roads, highways, streets and public sidewalks; trenching, cable laying; conduit construction; underwater rock removal; pipeline wrapping; or land clearing and leveling.
3. **Construction by other special trade contractors**—These contractors include plumbers, painters, carpenters, electricians, brick layers, roofers, etc. For the most part, they perform their work at the site of construction, although they may also have shops where they perform work incidental to the job site.

General contractors in both the building and the heavy construction field usually assume responsibility for an entire construction project, but may subcontract to others all of the actual construction work or those portions of the project requiring special skills or equipment. Special trade contractors may work for general contractors, for other subcontractors, or may work directly for the owner of the property.

In addition to the industries classified in the SIC manual as Construction, this census also includes one industry

classified in the Real Estate area, SIC 6552, Land Subdividers and Developers, Except Cemeteries. These establishments are engaged in subdividing real property into lots and in developing it for sale on their own account.

Each establishment receiving a questionnaire was requested to report the percent of total dollar value of business done for each kind-of-business activity engaged in during 1987. This information was used for the computer assignment of appropriate industry classifications. During this work, various tests were also made using other data reported on the questionnaire. The proportion of construction work to total business was checked to verify that the establishment was primarily in construction. Also taken into consideration were the types of structures worked on during the year and the extent of work undertaken for other contractors.

Construction establishments often engage in various construction activities. It is necessary, however, to assign a single industry code to the establishment based on its major activity. Therefore, the statistics shown for an industry reflect not only the primary activity of the establishments in the industry, but also their secondary activities. The industry reports, however, do present data on the extent of secondary activities.

A revised edition of the SIC Manual was issued in 1987. Minor modifications were made to three industries in the construction sector: SIC 1611, Highway and Street Construction Contractors, Except Elevated Highways; SIC 1629, Heavy Construction Contractors, N.E.C.; and SIC 1771, Concrete Work Special Trade Contractors. The extent of these modifications are explained in the specific texts for those industries. "Bridge tables" are also included showing selected data tabulated using both the previous classification system and the 1987 revision.

ESTABLISHMENT BASIS OF REPORTING

The census of construction industries is conducted on an establishment basis. A "construction establishment" is defined as a relatively permanent office or other place of business where the usual business activities related to construction are conducted. With some exceptions, a relatively permanent office is one which has been established for the management of more than one project or job and which is expected to be maintained on a continuing basis. Such "establishment" activities include, but are not limited to estimating, bidding, purchasing, supervising, and operation of the actual construction work being conducted at one or more construction sites. Separate construction reports were not required for each project or construction site.

Companies with more than one construction establishment were required to submit a separate report for each such establishment operated during all or any part of 1987. The census of construction industries figures represent a summary of records for individual establishments rather than for companies. The census tabulations, therefore, differ from those prepared on a company basis.

¹Standard Industrial Classification Manual: 1987. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.

If an establishment engaged in construction and one or more distinctly different lines of economic activity (wholesale or retail trade, service, manufacturing, mining, etc.) at the same place of business, it was requested to file a separate report appropriate to each activity, provided that the activity was of substantial size and separate records were maintained or substantially accurate estimates could be prepared.

If a separate establishment report could not be prepared for each activity, then a construction report was requested covering all activities of that establishment providing that the 1987 value of construction work exceeded the gross receipts from each of its other activities.

Construction businesses with no payroll during 1987 (nonemployers) were not required to file census reports. Tabulation of data for these businesses are based on administrative records and are shown only in U.S. summary publications and the geographic area reports series. Refer to the section on "Sample Design" for details. Foreign construction activities were not included in this census.

SAMPLE DESIGN, ESTIMATION PROCEDURES, AND RELIABILITY OF ESTIMATES

The companies included in the 1987 Census of Construction Industries were identified as part of an operation common to all 1987 Economic Censuses. Construction companies were divided into employers (companies with payroll) and nonemployers (companies without payroll). Statistical information for the employers was obtained in the census by a survey which included all medium size and large employers and a sample of the smaller ones. Census reports were not required from the nonemployers. Statistics on them were obtained from administrative records of other agencies of the Federal Government.

Employer Companies

Developing the sampling frame for employer companies—This operation started with obtaining a list of all construction companies in the active records of the Internal Revenue Service (IRS) which were subject to payment of Federal Insurance Contributions Act taxes. The basic source for this list has been the Internal Revenue Service Business Master File, a comprehensive list of companies engaged in business activities in the United States. The file contains the name, address, and form of ownership of each company and also indicates whether or not the company is subject to the FICA. Each company in this file is assigned a unique employer identification (EI) number which it uses in filing its various reports with the IRS. The Social Security Administration (SSA) maintains a similar list using the same identification numbers, which also contains information on the industrial classification of each company. The Bureau of the Census obtained both of these lists and combined them.

Under special arrangements which safeguarded the confidentiality of the information, the Bureau also obtained administrative records data on payrolls and receipts and added these data to the combined list. The list, thus created from the IRS-SSA information, was a list of employer companies. However, for the 1987 Economic Censuses the basic reporting unit is the "establishment." Therefore, steps were taken to identify the individual establishments of those companies which operate more than one place of business. The information for making this determination was obtained by means of the Company Organization Survey (COS), an annual canvass of all known multiestablishment companies and large single-establishment companies. Thus, the 1987 Economic Census list for single-establishment employer companies was obtained from the IRS-SSA, but the list of establishments of multiestablishment employer companies was obtained directly from those companies in the COS. Refer to the section on "Establishment Basis for Reporting" for details.

In general, the IRS-SSA list provided sufficient industrial classification data to assign a company to the proper economic census, but there were a number of companies for which this information was inadequate or unavailable. A special form, NC-9923, General Schedule, was mailed to all such companies, requesting information on the nature of the company's activities. From the information reported, the company was given an industrial classification code and assigned to the appropriate economic census. Since construction companies found in this way were identified only after the regular census mailing had taken place, they were treated as a supplement to the basic list.

Selecting the employer sample—The sample was designed to provide reliable State and metropolitan area estimates for each construction industry. It consisted of all construction establishments in multiestablishment companies, all single-establishment companies with estimated total employment of 20 employees or more, and a probability sample of single-establishment companies with estimated employment of fewer than 20 employees.

Supplementing the sample were construction companies identified from the NC-9923, General Schedule. Also affecting the sample were the misclassified companies; i.e., companies included in the samples of other trade areas which reported they were construction companies and companies originally classified in construction which reported they were not construction companies.

Of the 533,000 single-establishment employer companies initially classified as construction companies, 147,000 were included in the sample. All of the 13,000 establishments of multiestablishment companies were included in the sample. There was a net increase in the sample of 60,000 establishments resulting from establishments originally unclassified (receiving the NC-9923) or misclassified.

The probability sample of the smaller single-establishment companies was a stratified random sample. Strata were formed from all establishments with the same initial four-digit SIC code, in the same State, in the same metropolitan

area or in the balance of the State, and in the same size class based on estimated total employment. If the four-digit SIC code for an establishment was incomplete, the establishment was placed in a stratum for miscellaneous companies. Because they were small, all companies were included in the sample for the following three industries: SIC 1622, Bridge, Tunnel, and Elevated Highway Construction Contractors; SIC 1795, Wrecking and Demolition Work Special Trade Contractors; and SIC 1796, Installation or Erection of Building Equipment Special Trade Contractors.

Estimation procedures for 1987 and 1982 data— Since all larger employer companies and some smaller ones were included in the census, sample estimation was required only for the universe of companies not selected with certainty. The published statistics are the totals of the estimates for the sampled companies and the aggregates for the certainty companies. All estimates for 1987 and 1982 published here are simple unbiased estimates of the form:

$$x'_c = \frac{\sum x_i / p_i}{n_c}$$
$$i = 1$$

where: x'_c is the simple unbiased estimate of a characteristic for a publication cell.

x_i is the reported value of a characteristic for an individual establishment in the publication cell.

p_i is the selection probability of that firm.

n_c is the number of firms in the sample for the cell.

Data for certain characteristics were reported as a percentage of the dollar value of business done. Before this formula was applied to those characteristics, it was necessary to convert the reported percentages into dollars.

Reliability of employer statistics— Since the estimates for employer establishments in these reports are based on the samples, they are subject to sampling variability and may be expected to differ from results which would have been obtained if a complete census had been taken using the same forms and procedures. The sampling errors shown in the tables were estimated directly from the sample reports, using methods appropriate for the sample design and form of estimation used.

The relative standard error is a measure of sampling variability, i.e., the variation that might occur by chance because only a sample of the population is surveyed. As calculated for this report, the relative standard error also partially reflects the effect of random errors of response and processing, but it does not take into account the effect of any consistent biases due to those types of errors. The chances are about 68 out of 100 that an estimate from the

sample would differ from a complete census by less than the relative standard error. The chances are about 95 out of 100 that the difference is less than twice the relative standard error and about 99 out of 100 that it is less than 2-1/2 times the relative standard error. Individual estimates with large relative standard errors have been shown in the published tables. Any such estimates should be used with caution. The very large relative standard errors generally occur for the smaller estimates.

Relative standard errors have been calculated for all of the published statistics, although they are shown for each statistic only in the tables presenting detailed statistics. Other tables show relative standard errors only for certain characteristics because of lack of space.

As calculated for this report, the relative standard error measures certain nonsampling errors, but does not measure any systematic biases in the data. Bias is the difference, averaged over all possible samples with the same size and design, between the estimates and the true value being estimated. Nonsampling errors can be attributed to many sources: inability to obtain information about all cases in the sample; definitional difficulties; differences in interpretation of questions; inability or unwillingness of respondents to provide correct information; and errors made in processing the data. Although no direct measurements of the biases have been obtained, it is believed that most of the important response and operational errors were detected in the course of reviewing the data for reasonableness and consistency.

A potential source of bias is in the imputation for those establishments that have not responded by the time of final publication. Data were estimated for establishments that did not report by that date, although selected establishments were contacted again to obtain as much information on the telephone as possible. Some publication cells in which more than 40 percent of the data were not reported have been suppressed.

Nonemployer Companies

As described earlier, the information derived from the business income tax returns of all companies was matched to the census employer file on the basis of common identification numbers. Those business income tax returns which could not be matched, were further classified on the basis of several characteristics. Returns with characteristics consistent with companies without payroll were treated as nonemployers. The nonemployer construction companies were not required to file census reports.

For "number of establishments," each separate income tax return was assumed to be an establishment. "All business receipts" was based on receipts information reported on the tax return.

Since no sampling was involved in the nonemployer establishments, the statistics for nonemployers are not subject to sampling variability. However, these data are subject to an unknown amount of reporting and processing errors which could not be detected by the Census Bureau.

CENSUS REPORT FORMS

Information for the 1987 Census of Construction Industries was obtained from employer establishments primarily through the use of twenty-four questionnaires, determined by industry classification and size. Standard forms and short forms were developed for each of the following SIC groups: 15, 16, 171, 172, 173, 174, 175, 176, 177, 178, and 179 and for the establishments classified in SIC 6552. Establishments with 50 or more employees all received the standard form. A sub-sample of establishments with fewer than 50 employees received short forms instead of the standard forms. The short forms covered only major items and omitted some of the detail found in the longer forms.

In reviewing and developing the questionnaires, comments and recommendations were elicited from construction trade associations and appropriate advisory groups. The Bureau surveyed several thousand firms representing all economic activities to gain insight into the way companies maintain records and to see whether new information could be collected.

DATA PROCESSING

The 1987 census report forms were mailed out in December 1987. They were mailed from and returned to the Census Bureau's Data Preparation Division in Jeffersonville, Ind., where routine editing and coding of the report forms were also accomplished. Collection of these report forms was essentially completed in July 1988.

The returned reports underwent extensive processing. A preliminary edit done at the time of data entry identified obviously deficient reports and reports needing clarification. When necessary, these problems were resolved by further contact with the respondents. Next, the data were transmitted to Census Bureau headquarters near Washington, DC.

Data records, then, underwent a detailed computer review and analysis. The records containing significant problems were referred for further analytical review and, if necessary, contacts were made with the respondents. The computer performed most classification coding (such as industry coding, geographic coding, and size coding), and imputation for missing items or for reports not received in time for tabulation. The imputation was performed on an industry (or industry group)-State (or geographic group) basis using all available response and administrative data.

The data records were then tabulated on an industry basis. Industry totals were subjected to analytical review, and selected statistics were prepared for the preliminary reports. Corrections resulting from this review were made to the computer records and final tabulations were produced.

The review of a preliminary report for an industry often uncovered the need for corrections or revisions to the data for another industry for which a preliminary report had already been published. The final reports incorporate all

revisions and corrections made during the review of the preliminary reports and contain considerably more data than were published in those reports.

GEOGRAPHIC CLASSIFICATION

Information for the 1987 Census of Construction Industries' final industry report series is classified on the basis of two types of geographic distributions: (1) physical location of the establishment, and (2) location of construction work. A separate code was assigned on each basis allowing us to present data by both physical locations of the establishment and location of construction work.

The geographic area reports series presents similar data by industry for each State (physical location of the establishment) and for selected MSA's, CMSA's and PMSA's.

DUPLICATION IN VALUE OF CONSTRUCTION WORK

The aggregate of value of construction work reported by all construction establishments in each of the several industry, geographic area, or other groupings in this census, contains varying amounts of duplication, since the construction work of one firm may be subcontracted to other construction firms and also be included in the subcontractors' value of construction work. To avoid this duplication, a "net" value of construction work figure has been derived for each establishment by subtracting the costs for construction work subcontracted to others from the value of construction work.

Duplication in value of business between other construction and nonconstruction industries, results from the use of products of these other industries as input materials by construction establishments. "Value added," avoids this duplication and is, for most purposes, the best measure for comparing the relative economic importance of industries or areas. "Value added," is defined in the 1987 Census of Construction Industries as equal to dollar value of business done less costs for construction work subcontracted to others and payments for materials, components, supplies, and fuels. However, for SIC 6552 and SIC 1531 where land receipts are significant, land receipts are also subtracted from dollar value of business done.

SPECIAL TABULATIONS

Special tabulations of data collected in the 1987 Census of Construction Industries may be obtained on computer tape or in tabular form. The data will be in summary form and subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) as are the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact and detailed specifications of the type and format of the data to be provided, should be directed to the Chief, Construction Statistics Division, Bureau of the Census, Washington, DC, 20233.

To discuss a special tabulation before submitting specifications, call 301-763-7546.

COMPARABILITY OF CENSUS OF CONSTRUCTION INDUSTRIES DATA WITH OTHER DATA

Data contained in the reports of the 1987 Census of Construction Industries are not the same as the data published in the Census Bureau's monthly Construction Reports, Series C30, Value of New Construction Put in Place. The main difference is that the C30 series covers all new construction put in place without regard to who is performing the construction activity, whereas the construction census figures cover both new construction and maintenance and repair work done by establishments classified in the construction industry. Significant amounts of construction are done by establishments classified outside of construction (in real estate, manufacturing, utilities and communications, for example), both as "force account" construction and construction done for others. In addition, the value in place series includes construction-related expenses such as architectural and engineering costs and the costs of materials supplied by owners which are normally not reflected in the Census of Construction.

Data contained in the reports of the census of construction industries may also differ from industry data in "Employment and Earnings Statistics," published by the Bureau of Labor Statistics, and "Statistics of Income," published by the Internal Revenue Service. These differences arise from varying definitions of scope, coverage, timing, classification, and methodology.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in this publication:

*	Sampling error exceeds 40 percent.
**	Represents the sum of all employees during pay periods including 12th of March, May, August, and November, divided by 4.
-	Represents zero.
†	Represents value of construction work less costs for construction work subcontracted to others. (See Duplication in Value of Construction Work.)
††	Represents dollar value of business done less costs for construction work subcontracted to others, and costs for materials, components, supplies, and fuels. In SIC's 1531 and 6552, land receipts are also subtracted from dollar value of business done. (See Duplication in Value of Construction Work.)
(D)	Withheld to avoid disclosing data for individual companies; data are included in higher level totals.
(NA)	Not available.
(S)	Withheld because estimate did not meet publication standards on the basis of either the response rate, associated relative standard error, or a consistency review.
(W)	Greater than zero but less than 1 percent.
(X)	Not applicable.
n.s.k.	Not specified by kind.

Users' Guide for Locating Statistics in This Report by Table Number

Statistics	For U.S.	By State	By employment size	By size class of dollar value of business done	By type, class, ownership, kind of business, and location of construction ¹	By specialization in types of construction
Assets and depreciation (gross book value):						
Beginning of year—buildings, machinery and equipment	3					
End of year—total	1, 3	1	5	6		
End of year—buildings, machinery and equipment	3					
Depreciation charges during year— buildings, machinery and equipment	3					
Capital expenditures:						
Total capital expenditures	1, 3	1	5	6		
New buildings—machinery and equipment	3					
Used buildings—machinery and equipment	3					
Communication services, costs for	2					
Employees:						
All employees—average number	1, 2	1	5	6		
Construction workers—average number	1, 2, 9	1, 9				8
Other employees—average number	2					
Employer costs for fringe benefits—legally required and voluntary expenditures	2					
Establishments—number in business during year	1, 2, 4, 9	1, 9	5	6		8
Hours—construction workers:						
Total	1, 2, 9	1, 9	5	6		
Quarterly	2, 9	9				
Inventories	4					
Materials, components, supplies, and fuels—costs for	1, 2	1	5	6		
Payroll:						
First quarter, all employees	2					
Annual:						
All employees	1, 2	1	5	6		
Construction workers	1, 2	1				8
Other employees	2					
Power, fuels, and lubricants—costs for	2					
Proprietors and working partners	2					
Ratios, State	13	13				
Value and receipts:						
Dollar value of business done, total	2					
Value of construction work, total	1, 2, 4	1	5	6	11	
For work subcontracted in from others	2					2, 7, 10
Other business receipts and land receipts ²	2					
Net value of construction work	1, 2	1	5	6		8
Value added	1, 2	1	5	6		8
Rental costs:						
Total	1, 2	1	5	6		
For machinery and equipment	2					
For buildings	2					
Repairs to buildings and other structures	2					
Repairs to machinery and equipment	2					
Selected industry ratios	12					
Subcontract work to others, costs for	1, 2	1	5	6		8

Note: Data for 1982 and earlier years are also available in some of these tables.

¹Type—buildings, roads, etc. Class—new construction; additions, alterations, or reconstruction; or maintenance and repair work. Ownership—private or government owned.

²Land receipts are shown separately for SIC's 1531 and 6552 only.

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Installation or Erection of Building Equipment Special Trade Contractors, Not Elsewhere Classified

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Statistics for Establishments Without Payroll appear in the U.S. Industry Summary Report.

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SUMMARY OF FINDINGS

Establishments classified in this industry are primarily engaged in the installation or erection of building equipment, not elsewhere classified, such as elevators, pneumatic tube systems, and dust collection equipment. This industry also includes contractors primarily engaged in the installation or dismantling of machinery or other industrial equipment. For additional examples, refer to the 1987 Standard Industrial Classification (SIC) Manual published by the Office of Management and Budget, Executive Office of the President.

During 1987, the establishments with paid employees classified in this industry accounted for \$5.5 billion in total dollar value of business. Of this amount, \$5.4 billion were for the value of construction work. These establishments paid out \$1.4 billion for materials, components, and supplies and \$350 million for construction work subcontracted to others. Costs for selected power, fuels, and lubricants for this industry were \$66.2 million. Value added for 1987 was \$3.7 billion.

There were 3,777 establishments with total employment averaging 62,151 during the year. Total payroll for 1987 was \$1.9 billion. Total hours worked by construction workers during the year were 91.3 million hours.

Larger establishments with 20 employees or more, while representing only 20 percent of the total number of

employer establishments in this industry accounted for 73 percent of all business done.

A "construction establishment" is defined as a relatively permanent office, or other place of business, where the usual business activities related to construction are conducted. A separate census report was required from each sampled establishment covering domestic operations. Separate reports were not, however, required for each project or construction site.

In 1987, the value of construction work was collected to better measure actual construction activity done during the year. Construction receipts, as reported in earlier censuses, may have included the value of work done before or after the calendar year and may have excluded the value of work in progress during the calendar year. Receipts may have also excluded work done by builders engaged in construction for sale on their own account or for their own use. All dollar values are shown in current dollars for the years specified and have not been adjusted for inflation.

The data in this report are estimated from a sample survey and are subject to sampling variability as well as errors of response and nonreporting. The relative standard error shown in the tables is a measure of sampling variability. Descriptions of the sampling, estimating procedures, and data reliability are included in the Introduction.

Figure 1. Value of Construction Work by Type of Construction

(Percent)

1987
1982

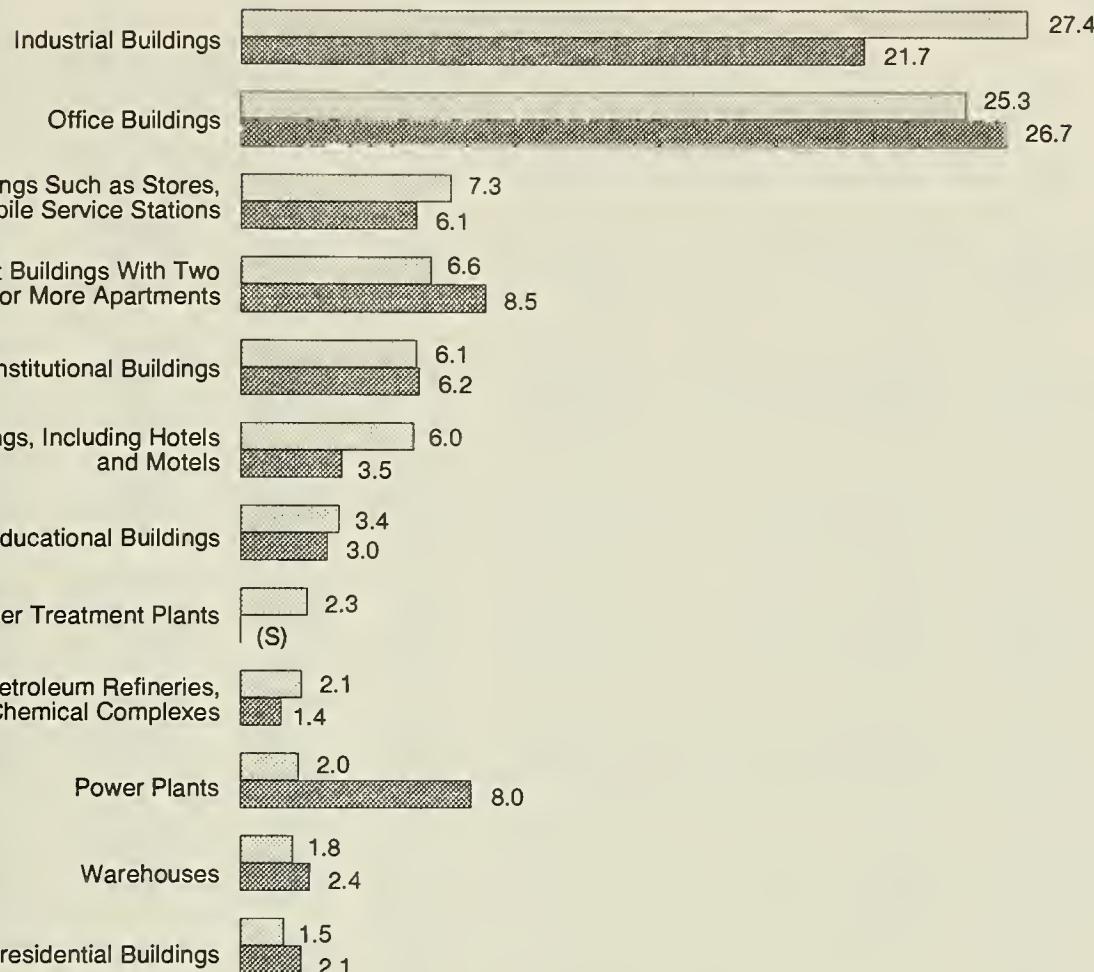
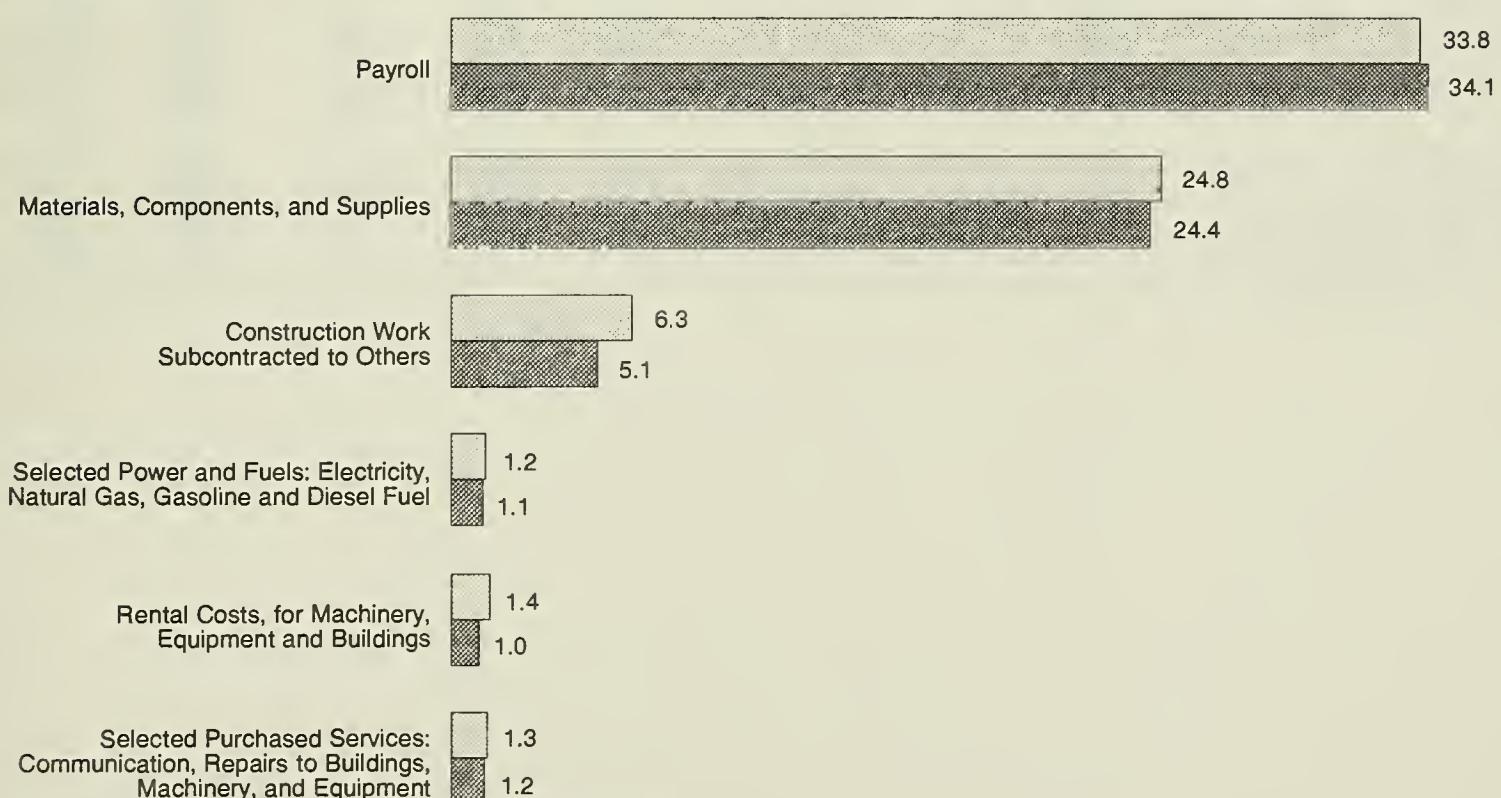


Figure 2. Selected Costs Per Dollar Value of Business Done

(Percent)

1987
1982



For meaning of abbreviations and symbols, see introductory text.

Table 1. General Statistics for Establishments With Payroll by State: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of establishment	1987							
	Number of establishments	Employees**		Payroll		Construction worker hours (thousands)	Value of construction work	Net value of construction work†
		All	Construction workers	All employees	Construction workers			
A	B	C	D	E	F	G	H	
United States	3 777	62 151	50 244	1 857 748	1 447 481	91 269	5 359 826	5 009 764
Alabama	61	1 239	1 079	27 536	21 658	1 735	68 409	64 233
Alaska	8	47	34	2 184	1 719	65	7 220	(D)
Arizona	51	519	436	13 820	10 986	657	44 057	41 155
Arkansas	38	524	461	9 696	7 985	781	29 613	27 826
California	349	5 441	4 366	189 827	153 655	7 955	523 790	499 863
Colorado	43	633	484	17 655	13 490	780	53 020	51 041
Connecticut	59	823	636	27 759	21 268	1 252	80 494	77 644
Delaware	19	252	201	6 090	4 718	388	18 740	17 638
District of Columbia	4	(D)	(D)	(D)	(D)	123	7 966	(D)
Florida	180	2 510	2 076	65 060	54 321	3 416	210 392	203 513
Georgia	136	1 824	1 516	48 147	38 367	3 049	143 324	136 631
Hawaii	28	331	264	11 333	9 044	418	35 064	34 209
Idaho	*23	(D)	62	(D)	(D)	153	6 135	5 813
Illinois	208	3 894	3 134	115 642	92 993	5 345	310 011	290 477
Indiana	74	1 519	1 238	48 050	33 149	2 189	113 985	107 417
Iowa	72	682	523	15 041	11 642	919	45 644	43 706
Kansas	45	1 183	1 024	30 014	24 370	2 025	68 578	61 646
Kentucky	54	1 085	843	25 880	19 895	1 443	71 052	65 466
Louisiana	80	1 068	863	26 025	20 817	1 488	68 544	67 034
Maine	17	150	120	3 413	2 802	193	14 951	14 558
Maryland	92	1 675	1 340	52 260	37 732	2 330	140 957	137 595
Massachusetts	85	1 618	1 308	57 392	45 560	2 504	150 103	145 356
Michigan	173	2 933	2 402	90 602	72 421	4 263	263 255	217 998
Minnesota	66	974	772	29 072	21 742	1 324	88 276	85 730
Mississippi	29	436	368	11 321	8 923	784	41 979	38 826
Missouri	62	822	638	24 017	19 196	1 314	65 086	63 574
Montana	*17	84	70	2 090	1 680	84	7 699	7 528
Nebraska	27	358	289	9 253	7 577	461	22 374	21 768
Nevada	12	121	92	5 186	4 132	164	14 982	(D)
New Hampshire	11	162	117	6 040	4 619	245	16 844	(D)
New Jersey	130	3 084	2 370	108 035	76 239	4 337	339 190	315 042
New Mexico	8	49	39	1 914	1 600	72	5 082	5 055
New York	268	6 952	5 433	220 911	165 154	9 657	600 546	578 192
North Carolina	95	1 319	1 085	31 355	24 028	2 220	113 296	110 043
North Dakota	11	118	91	3 507	2 466	183	10 974	10 430
Ohio	149	2 655	2 149	77 323	61 889	4 021	219 415	204 650
Oklahoma	29	279	217	7 595	6 070	382	22 697	22 550
Oregon	65	829	710	24 860	19 138	1 356	62 380	58 835
Pennsylvania	134	3 524	2 949	114 497	94 444	5 253	342 500	330 537
Rhode Island	8	114	81	3 864	2 914	161	13 140	12 828
South Carolina	45	677	569	14 192	11 209	1 049	37 322	35 605
South Dakota	21	*128	*114	1 743	1 321	*257	5 495	5 420
Tennessee	87	1 705	1 424	42 129	34 280	2 603	141 128	121 778
Texas	305	3 508	2 802	95 899	75 249	5 206	266 297	260 429
Utah	21	152	117	4 068	3 026	201	11 704	11 372
Vermont	*17	*68	*53	*1 462	*1 304	*127	6 440	6 066
Virginia	60	1 202	961	35 524	26 538	1 804	105 333	100 002
Washington	88	716	576	22 555	17 383	1 068	66 422	63 209
West Virginia	21	202	164	6 920	5 777	312	33 729	(D)
Wisconsin	66	1 797	1 449	63 407	46 778	3 076	223 149	(D)
Wyoming	*11	(D)	(S)	(D)	(S)	(S)	(S)	(S)

¹In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

1987—Con.

1982

Value added††	Cost of materials, components, supplies, and fuels	Cost of construction work subcontracted to others	Rental cost for machinery, equipment, and buildings	Capital expenditures, other than land	End-of-year gross book value of depreciable assets	1982			Relative standard error of estimate (percent) for column—			Location of establishment
						All employees**	Total construction receipts'	Value added††				
I	J	K	L	M	N	O	P	Q	B	H	M	
3 723 074	1 429 798	350 061	76 798	49 079	426 319	60 169	4 189 275	2 952 049	1	1	3	U.S.
49 915	17 272	4 175	1 518	1 262	11 401	1 121	63 336	46 948	3	2	6	AL
5 086	2 094	(D)	81	(D)	318	98	11 586	9 181	(W)	(D)	(D)	AK
24 848	(D)	2 902	533	269	2 838	194	15 088	9 945	15	15	7	AZ
20 910	(D)	1 787	892	807	4 131	250	17 130	11 566	9	6	24	AR
376 610	135 847	23 927	7 973	5 586	43 854	5 141	367 644	268 450	2	2	10	CA
36 798	14 786	1 979	1 424	533	3 121	839	68 328	42 924	7	3	2	CO
56 926	24 009	2 850	1 005	702	7 892	1 301	81 174	62 627	5	4	35	CT
12 284	(D)	1 102	208	186	1 534	154	8 620	4 935	2	2	4	DE
6 064	(D)	(D)	(D)	125	479	87	6 136	4 213	(D)	(D)	(W)	DC
136 709	76 543	6 879	2 537	873	5 052	2 526	168 264	112 578	5	6	13	FL
103 427	38 131	6 692	2 701	2 304	12 077	1 991	114 251	75 491	3	5	12	GA
24 533	10 994	*855	284	180	3 478	449	31 430	25 907	16	9	32	HI
3 167	(D)	322	28	362	1 372	(S)	(S)	(S)	(D)	16	17	ID
217 480	80 970	19 534	5 010	1 786	13 379	2 979	206 730	151 629	3	2	9	IL
87 640	27 888	6 568	1 794	1 317	17 785	853	47 190	36 242	3	3	9	IN
28 595	16 787	1 937	522	879	5 683	513	40 697	25 365	10	8	23	IA
45 326	(D)	*6 931	646	1 201	5 257	373	27 516	15 936	5	6	10	KS
51 755	24 679	5 585	857	1 240	7 939	784	51 777	32 676	4	3	13	KY
52 749	17 900	1 509	757	618	9 331	1 364	95 706	66 082	6	4	23	LA
9 563	4 995	*393	*139	146	1 011	160	9 941	6 258	24	24	33	ME
97 035	41 781	3 362	1 686	617	7 739	1 154	99 670	71 592	5	3	22	MD
105 236	41 572	4 747	1 896	1 327	10 509	1 371	84 265	56 914	2	2	11	MA
170 459	51 093	45 257	3 868	1 746	17 425	2 065	184 531	120 370	4	2	6	MI
59 149	28 907	2 546	1 175	653	5 623	1 118	79 595	55 764	4	2	7	MN
25 837	13 249	3 153	604	809	*7 423	294	16 639	9 843	4	28	12	MS
44 696	20 524	1 512	564	657	3 092	978	68 513	46 628	7	5	37	MO
5 219	(D)	171	55	(D)	75	(D)	(D)	(D)	24	(D)	21	MT
17 243	5 587	606	351	74	931	283	18 497	13 492	6	6	13	NE
10 537	4 505	(D)	151	10	491	139	9 867	7 655	(W)	(D)	(W)	NV
10 525	5 259	(D)	117	(D)	(D)	171	12 009	8 674	14	(D)	(D)	NH
224 164	100 541	24 148	4 025	2 073	16 912	2 601	185 822	126 298	1	2	11	NJ
3 933	1 122	27	37	14	159	171	11 012	8 400	(W)	(W)	28	NM
438 018	152 505	22 354	7 756	4 014	43 304	6 274	427 996	322 648	2	1	7	NY
81 046	31 579	3 253	1 278	993	7 666	1 020	58 541	39 460	6	11	19	NC
6 825	3 605	544	126	—	403	66	4 337	2 952	17	10	—	ND
162 322	49 892	14 765	4 088	2 910	31 935	2 645	144 078	107 364	2	1	10	OH
17 533	5 114	147	308	51	922	688	52 788	36 398	8	5	(W)	OK
44 394	(D)	3 545	1 155	605	2 304	885	68 260	41 025	8	3	16	OR
266 631	67 329	11 962	6 435	2 021	23 311	6 088	414 348	324 372	1	2	10	PA
8 748	(D)	311	*77	(D)	361	151	13 023	8 192	19	15	(D)	RI
27 610	9 956	1 717	727	1 510	5 853	722	37 788	25 642	10	1	10	SC
3 851	1 569	*75	(D)	(D)	838	(D)	3 024	1 830	54	29	(D)	SD
87 412	40 630	19 350	2 092	1 278	13 446	1 215	76 476	50 595	1	1	12	TN
197 318	65 734	5 867	3 563	2 276	24 453	5 327	423 971	273 333	5	4	20	TX
7 817	3 639	*332	208	240	1 339	196	11 740	6 867	10	7	39	UT
4 013	2 053	*374	(S)	(S)	(S)	(D)	(D)	(D)	56	31	(S)	VT
73 130	29 054	5 331	1 483	934	5 577	988	69 041	48 027	4	4	11	VA
41 416	25 002	3 213	935	434	5 607	770	61 852	42 783	7	2	28	WA
14 444	13 567	(D)	165	57	(D)	324	28 317	15 737	(W)	(D)	(W)	WV
115 496	46 890	(D)	2 542	2 836	27 430	1 084	80 318	63 590	3	(D)	31	WI
(S)	(S)	(S)	(D)	(S)	(S)	(S)	(S)	(S)	(D)	(S)	(S)	WY

Table 2. Detailed Statistics for Establishments With Payroll: 1987 and Earlier Census Years

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	1987	1982	1977	1972	Relative standard error of estimate (percent)			
					1987	1982	1977	1972
Number of establishments in business during year	3 777	3 754	2 442	1 945	2	2	2	4
Proprietors and working partners	371	629	598	559	11	7	10	13
All employees**	62 151	60 169	40 474	38 956	1	1	1	1
Construction workers:								
March	50 527	49 239	31 300	31 961	1	1	1	1
May	49 840	48 732	32 085	25 093	1	1	1	2
August	50 641	48 682	33 688	33 474	1	1	1	2
November	49 986	48 487	33 334	32 776	1	1	1	2
Average	50 244	49 101	32 630	31 058	1	1	1	1
Other employees:								
March	11 801	11 058	7 774	8 012	1	1	1	1
May	11 939	(NA)	(NA)	(NA)	1	(NA)	(NA)	(NA)
August	11 765	(NA)	(NA)	(NA)	1	(NA)	(NA)	(NA)
November	12 107	(NA)	(NA)	(NA)	1	(NA)	(NA)	(NA)
Average	11 906	(NA)	(NA)	(NA)	1	(NA)	(NA)	(NA)
Construction worker hours (thousands):								
January to March	22 456	20 367	(NA)	(NA)	1	1	(NA)	(NA)
April to June	22 425	20 507	(NA)	(NA)	1	1	(NA)	(NA)
July to September	23 282	20 572	(NA)	(NA)	1	1	(NA)	(NA)
October to December	23 105	20 904	(NA)	(NA)	1	1	(NA)	(NA)
Total hours worked	91 269	82 351	(NA)	(NA)	1	1	(NA)	(NA)
Payroll, all employees	1 857 748	1 449 266	752 439	517 966	(W)	(W)	(W)	1
Payroll, construction workers	1 447 481	1 144 755	601 593	406 046	1	(W)	(W)	1
Payroll, other employees	410 266	304 511	150 846	111 920	1	(W)	(W)	1
First quarter payroll, all employees	463 654	353 004	172 374	(NA)	1	(W)	(W)	(NA)
Employer costs for fringe benefits, all employees								
Legally required expenditures	460 503	302 273	155 442	(NA)	1	(W)	1	(NA)
Voluntary expenditures	248 320	182 602	76 258	(NA)	1	(W)	1	(NA)
Dollar value of business done								
Value of construction work ¹	5 502 934	4 255 801	1 947 041	1 457 818	1	(W)	1	1
Value of construction work subcontracted in from others	5 359 826	4 189 275	1 899 047	1 408 192	1	(W)	1	1
Land receipts ²	1 489 221	1 798 884	635 660	490 102	1	(W)	(W)	1
Other business receipts	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	9
143 107	66 526	47 995	49 626	2	3	2	2	9
Net value of construction work†	5 009 764	3 970 612	1 829 175	1 349 214	1	(W)	(W)	1
Value added††	3 723 074	2 952 049	1 385 046	978 219	1	(W)	(W)	1
Selected costs								
Materials, components, and supplies ³	1 779 859	1 303 752	561 995	479 599	1	1	1	1
Construction work subcontracted to others	1 363 562	1 038 708	469 172	420 621	1	1	1	1
Selected power, fuels, and lubricants	350 061	218 663	69 872	58 978	1	1	4	1
Electricity	66 236	46 381	22 952	(NA)	1	1	1	(NA)
Natural gas	11 696	7 863	3 335	(NA)	1	2	1	(NA)
Gasoline and diesel fuel	3 388	2 457	1 412	(NA)	2	3	1	(NA)
On highway use	47 437	32 337	15 050	(NA)	1	2	1	(NA)
Off highway use	42 714	(NA)	(NA)	(NA)	1	(NA)	(NA)	(NA)
Other, including lubricating oils and greases	4 722	(NA)	(NA)	(NA)	2	(NA)	(NA)	(NA)
3 714	3 722	3 157	(NA)	1	2	2	(NA)	
Rental cost for machinery, equipment, and buildings								
For machinery and equipment	76 798	43 718	23 037	(NA)	1	1	1	(NA)
For buildings	43 227	26 078	15 119	11 883	2	1	1	2
33 570	17 640	7 919	(NA)	2	2	1	(NA)	
Selected purchased services								
Communication services	71 274	49 356	27 171	(NA)	1	1	1	(NA)
Repairs to buildings and other structures	36 846	24 902	12 725	(NA)	1	1	1	(NA)
Repairs to machinery and equipment	5 770	4 176	1 884	(NA)	2	2	1	(NA)
28 656	20 277	12 563	(NA)	2	2	1	(NA)	
Ownership of construction projects:								
Value of construction work ¹	5 359 826	4 189 275	1 899 047	1 408 192	1	(W)	1	1
Government owned	444 611	348 489	212 739	298 678	3	3	1	1
Federal	117 728	(NA)	(NA)	(NA)	9	(NA)	(NA)	(NA)
State and local	326 882	(NA)	(NA)	(NA)	3	(NA)	(NA)	(NA)
4 915 215	3 840 785	1 686 308	1 109 514	1	(W)	1	(NA)	

¹In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

²Data were collected separately for establishments classified in SIC 1531, Operative Builders, and SIC 6552, Subdividers and Developers, Except Cemeteries. For all other industries, data are included in other business receipts.

³For 1972, includes data for power, fuels, and lubricants.

**Table 3. Assets, Capital Expenditures, and Depreciation for Establishments With Payroll:
1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	1987	1982	Relative standard error of estimate (percent)	
			1987	1982
BUILDINGS AND OTHER STRUCTURES, MACHINERY, AND EQUIPMENT				
Beginning-of-year gross book value of depreciable assets	394 698	411 213	2	1
Capital expenditures, other than land	49 079	47 337	3	2
New	36 442	38 803	3	2
Used	12 637	8 534	8	3
Retirements and disposition of depreciable assets	17 458	14 332	3	7
End-of-year gross book value of depreciable assets	426 319	444 218	2	1
Depreciation charges during year	46 511	53 506	3	1
Buildings and other Structures, Additions, and Related Facilities				
Beginning-of-year gross book value of depreciable assets	83 263	88 569	4	2
Capital expenditures, other than land	7 849	8 980	10	2
New buildings and other structures	3 967	7 713	8	2
Used buildings and other structures	3 882	1 266	19	8
Retirements and disposition of depreciable assets	3 570	3 960	4	25
End-of-year gross book value of depreciable assets	87 543	93 588	4	2
Depreciation charges during year	6 901	8 326	5	2
Machinery and Equipment				
Beginning-of-year gross book value of depreciable assets	311 435	322 643	2	1
Capital expenditures, other than land	41 230	38 357	3	2
New machinery and equipment, including automobiles and trucks	32 475	31 089	3	2
New automobiles and trucks, intended primarily for highway use	16 742	12 552	4	4
Used machinery and equipment, including automobiles and trucks	8 754	7 268	6	3
Retirements and disposition of depreciable assets	13 888	10 371	3	2
End-of-year gross book value of depreciable assets	338 776	350 629	2	1
Depreciation charges during year	39 609	45 179	3	1

Table 4. Value of Inventories for Establishments With Payroll: 1987 and 1986

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Establishments with payroll	Relative standard error of estimate (percent)
All establishments:		
Number -----	3 777	2
Value of construction work -----	5 359 826	1
Establishments with inventories:		
Number -----	1 713	3
Value of construction work -----	2 953 973	1
Inventories: ¹		
End of 1987, materials and supplies -----	114 394	1
End of 1986, materials and supplies -----	115 278	2
Establishments with no inventories:		
Number -----	1 435	5
Value of construction work -----	1 229 186	2
Establishments not reporting:		
Number -----	629	6
Value of construction work -----	1 176 667	3

¹Inventories at cost or market prior to any adjustment to correct to LIFO values.

Table 5. Selected Statistics for Establishments With Payroll by Employment Size Class: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Selected statistics	Total	Establishments with an average of—								
		1 to 4 employees	5 to 9 employees	10 to 19 employees	20 to 49 employees	50 to 99 employees	100 to 249 employees	250 to 499 employees	500 to 999 employees	1,000 employees or more
1987										
Number of establishments -----	3 777	1 550	821	649	496	155	89	12	3	1
All employees** -----	62 151	3 263	5 269	8 776	14 744	10 802	12 277	4 064	2 951	(D)
Payroll, all employees -----	1 857 748	69 740	123 910	240 075	436 162	344 024	413 460	138 758	91 617	(D)
Construction worker hours (thousands) -----	91 269	4 831	6 685	12 596	21 855	16 697	18 490	5 493	4 618	(D)
Dollar value of business done -----	5 502 934	313 321	415 577	750 905	1 194 690	977 627	1 099 436	379 518	371 859	(D)
Value of construction work ¹ -----	5 359 826	309 546	404 828	726 342	1 157 418	953 067	1 066 110	742 513	(D)	(D)
Net value of construction work ¹ -----	5 009 764	298 866	390 954	689 159	1 100 396	890 029	994 412	349 315	296 632	(D)
Value added†† -----	3 723 074	220 893	291 264	509 979	840 079	655 895	724 856	252 267	227 840	(D)
Cost of materials, components, supplies, and fuels -----	1 429 798	81 747	110 439	203 741	297 589	258 694	302 882	174 704	(D)	(D)
Cost of construction work subcontracted to others -----	350 061	10 680	13 874	37 183	57 021	63 038	71 698	96 566	(D)	(D)
Rental cost for machinery, equipment, and buildings -----	76 798	3 619	6 664	10 906	20 241	12 892	13 469	3 602	5 403	(D)
Capital expenditures, other than land -----	49 079	2 397	6 575	9 408	12 581	10 873	6 278	965	(D)	(D)
End-of-year gross book value of depreciable assets -----	426 319	28 875	41 097	70 484	103 946	79 025	80 477	22 412	(D)	(D)
1982										
All employees** -----	60 169	3 475	5 651	8 314	12 523	10 300	11 067	4 215	4 624	(D)
Total construction receipts ¹ -----	4 189 275	226 587	317 426	524 729	848 464	828 124	842 266	324 970	276 709	(D)
Value added†† -----	2 952 049	156 599	219 172	366 209	594 513	589 530	558 338	243 695	223 991	(D)
1987 RELATIVE STANDARD ERROR OF ESTIMATE (PERCENT)										
All employees** -----	1	5	4	3	1	(W)	(W)	(W)	(W)	(D)
Net value of construction work ¹ -----	1	5	5	3	1	(W)	(W)	(W)	(W)	(D)
Capital expenditures, other than land -----	3	14	11	8	5	8	(W)	(W)	(W)	(D)

Note: Underscored data fields include data from adjoining columns which have been withheld to avoid disclosing data for individual companies.

¹In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

Table 6. Selected Statistics by Size Class of the Dollar Value of Business Done for Establishments With Payroll: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Selected statistics	Total	Establishments with dollar value of business done									
		Less than \$25,000	\$25,000 to \$49,999	\$50,000 to \$99,999	\$100,000 to \$249,999	\$250,000 to \$499,999	\$500,000 to \$999,999	\$1,000,000 to \$2,499,999	\$2,500,000 to \$4,999,999	\$5,000,000 to \$9,999,999	\$10,000,000 or more
1987											
Number of establishments -----	3 777	(S)	(S)	(S)	696	638	625	632	250	143	88
All employees** -----	62 151	(S)	(S)	(S)	2 260	3 923	5 915	12 310	9 305	11 172	15 868
Payroll, all employees -----	1 857 748	(S)	(S)	(S)	39 648	80 018	147 135	347 969	293 746	371 971	564 625
Construction worker hours (thousands) -----	91 269	(S)	(S)	(S)	2 607	5 715	8 324	17 683	14 461	17 189	23 541
Dollar value of business done -----	5 502 934	(S)	(S)	(S)	115 945	232 091	449 226	979 049	856 790	1 009 196	1 825 908
Value of construction work ¹ -----	5 359 826	(S)	(S)	(S)	114 532	227 916	437 739	947 903	832 434	976 202	1 789 427
Net value of construction work ¹ -----	5 009 764	(S)	(S)	(S)	111 466	217 861	422 880	912 222	786 546	927 143	1 599 147
Value added†† -----	3 723 074	(S)	(S)	(S)	85 548	162 384	319 608	692 721	600 302	705 317	1 132 000
Cost of materials, components, supplies, and fuels -----	1 429 798	(S)	(S)	(S)	27 330	59 651	114 759	250 647	210 600	254 820	503 628
Cost of construction work subcontracted to others -----	350 061	(S)	(S)	(S)	3 066	10 055	14 858	35 680	45 887	49 059	190 280
Rental cost for machinery, equipment, and buildings -----	76 798	(S)	(S)	(S)	2 062	3 799	7 618	16 982	13 126	12 805	19 934
Capital expenditures, other than land -----	49 079	(S)	(S)	(S)	1 942	3 178	7 117	13 482	7 615	9 414	5 686
End-of-year gross book value of depreciable assets -----	426 319	(S)	(S)	(S)	17 197	24 605	49 937	102 918	62 364	80 330	84 041
1982											
All employees** -----	60 169	284	244	874	3 689	4 576	6 427	10 117	8 541	10 545	14 871
Total construction receipts ¹ -----	4 189 275	2 706	5 291	29 303	156 619	231 608	363 485	671 310	622 962	812 571	1 293 419
Value added†† -----	2 952 049	1 810	3 922	19 214	107 549	163 782	261 108	482 065	425 819	579 199	907 578
1987 RELATIVE STANDARD ERROR OF ESTIMATE (PERCENT)											
All employees** -----	1	(S)	(S)	(S)	7	6	4	2	1	(W)	(W)
Net value of construction work ¹ -----	1	(S)	(S)	(S)	6	4	4	2	2	(W)	(W)
Capital expenditures, other than land -----	3	(S)	(S)	(S)	21	10	10	6	4	9	(W)

Note: Underscored data fields include data from adjoining columns which have been withheld to avoid disclosing data for individual companies.

¹In earlier censuses construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

Table 7. Value of Construction Work for Establishments With Payroll by Type of Construction: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Type of construction	Value of construction work ¹				Relative standard error of estimate (percent) for column—			
	Total	New construction	Additions, alterations, or reconstruction ²	Maintenance and repair				
	A	B	C	D	A	B	C	D
1987								
Value of construction work¹	5 359 826	2 170 867	807 322	2 199 510	1	1	1	1
Building construction	4 722 281	2 009 445	671 399	2 041 436	1	1	1	1
Single-family houses	45 557	28 786	11 172	5 598	10	14	17	22
Single-family houses, detached	38 774	24 667	9 740	4 365	12	15	19	28
Single-family houses, attached	6 783	4 118	1 431	1 233	19	30	6	4
Apartment buildings with two or more apartments	354 018	104 595	42 140	207 282	1	2	(W)	(W)
Other residential buildings, including hotels and motels	320 264	132 090	28 908	159 264	2	2	6	2
Hotels and motels	229 080	99 019	24 389	105 671	1	1	1	1
Other residential buildings, excluding hotels and motels	91 183	33 071	4 519	53 593	8	7	37	6
Office buildings	1 356 025	614 524	77 885	663 616	(W)	(W)	3	1
Other commercial buildings such as stores, restaurants, and automobile service stations	389 140	168 914	65 746	154 479	3	3	9	1
Industrial buildings and warehouses	1 565 427	712 069	373 036	480 321	2	3	1	2
Industrial buildings	1 468 750	662 636	353 945	452 168	2	3	1	2
Warehouses	96 676	49 433	19 090	28 152	2	2	3	4
Religious buildings	32 447	15 092	3 205	14 149	2	4	2	1
Educational buildings	179 239	70 367	13 097	95 774	2	1	10	2
Hospitals and institutional buildings	325 182	114 234	38 273	172 675	(W)	(W)	2	1
Farm buildings	29 913	9 138	8 402	12 371	23	23	33	20
Amusement, social, and recreational buildings	46 608	10 824	2 654	33 129	2	6	9	(W)
Other nonresidential buildings	78 461	28 812	6 881	42 778	4	(W)	24	5
Nonbuilding construction	455 418	161 421	135 923	158 074	2	5	2	3
Blast furnaces, petroleum refineries, and chemical complexes	114 325	41 087	36 552	36 685	7	15	3	9
Power plants	105 104	26 024	41 306	37 772	2	2	1	3
Power plants, nuclear	11 272	(D)	(D)	5 373	4	(D)	(D)	8
Power plants, except nuclear	93 831	(D)	(D)	32 399	2	(D)	(D)	3
Sewage treatment and water treatment plants	121 746	44 902	37 285	39 559	3	3	3	4
Other nonbuilding construction	114 243	49 408	20 779	44 057	8	13	7	10
Construction work, n.s.k.	182 127	(NA)	(NA)	(NA)	3	(NA)	(NA)	(NA)
1982								
Value of construction work¹	4 189 275	2 336 387	(NA)	1 852 888	(W)	(W)	(NA)	(W)
Building construction	3 474 591	2 016 683	(NA)	1 457 907	(W)	(W)	(NA)	(W)
Single-family houses	82 394	55 545	(NA)	26 849	5	5	(NA)	8
Single-family houses, detached	71 111	46 959	(NA)	24 151	4	5	(NA)	8
Single-family houses, attached	11 283	8 586	(NA)	2 697	13	16	(NA)	26
Apartment buildings with two or more apartments	356 708	208 867	(NA)	147 841	(W)	1	(NA)	(W)
Other residential buildings, including hotels and motels	145 307	81 761	(NA)	63 545	(W)	1	(NA)	(W)
Hotels and motels	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Other residential buildings, excluding hotels and motels	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Office buildings	1 119 584	707 644	(NA)	411 939	(W)	(W)	(NA)	(W)
Other commercial buildings such as stores, restaurants, and automobile service stations	253 555	153 310	(NA)	100 244	2	2	(NA)	3
Industrial buildings and warehouses	1 011 066	524 296	(NA)	486 769	1	1	(NA)	1
Industrial buildings	909 237	462 782	(NA)	446 454	1	1	(NA)	1
Warehouses	101 828	61 513	(NA)	40 315	4	7	(NA)	4
Religious buildings	14 656	8 438	(NA)	6 218	4	4	(NA)	5
Educational buildings	123 623	78 520	(NA)	45 102	1	2	(NA)	2
Hospitals and institutional buildings	259 505	135 442	(NA)	124 062	1	1	(NA)	(W)
Farm buildings	19 684	11 532	(NA)	8 152	16	25	(NA)	10
Other nonresidential buildings	88 509	51 328	(NA)	37 186	1	2	(NA)	(W)
Nonbuilding construction	475 343	196 085	(NA)	279 258	1	1	(NA)	1
Blast furnaces, petroleum refineries, and chemical complexes	60 071	27 454	(NA)	32 617	3	3	(NA)	4
Power plants	337 235	116 458	(NA)	220 777	(W)	(W)	(NA)	(W)
Power plants, nuclear	154 854	32 953	(NA)	121 901	(W)	(W)	(NA)	(W)
Power plants, except nuclear	182 380	83 505	(NA)	98 875	1	1	(NA)	(W)
Other nonbuilding construction	78 037	52 173	(NA)	25 864	9	13	(NA)	6
Construction work, n.s.k.	239 340	123 618	(NA)	115 722	2	3	(NA)	1

¹In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

²In 1982, data for additions, alterations, or reconstruction were collected separately for SIC 1521, 1522, 1531, 1541, and 1542. For all other industries, data are included with "New construction."

Table 8. Selected Statistics for Establishments With Payroll by Specialization in Types of Construction: 1987

[Thousand dollars. Detail may not add to total due to rounding. This table presents selected statistics for establishments according to degree of specialization in major types of construction work. If number of establishments or value of construction work for a given type of specialization are relatively insignificant, data may not be shown. In addition, data are not shown in this table where distribution of the value of construction work by type of construction was not provided in table 7. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Number of establishments	All employees**	Payroll, all employees	Value of construction work		Net value of construction work†	Value added††	Cost of construction work subcontracted to others	Relative standard error of estimate (percent) for column—			
				For all types	For specialized type				B	D	H	
				A	C	D	E	F	G	H		
All establishments	3 777	62 151	1 857 748	5 359 826	3 137 900	5 009 764	3 723 074	350 061	1	1	1	
Establishments not specializing by type	941	17 827	620 081	1 706 090	(NA)	1 685 688	1 241 272	20 401	1	1	1	
Establishments specializing 51 percent or more	2 836	44 323	1 237 666	3 653 735	3 137 900	3 324 076	2 481 801	329 659	1	1	4	
APARTMENT BUILDINGS WITH TWO OR MORE APARTMENTS												
All establishments specializing in type	72	1 730	51 252	138 312	110 816	134 639	96 463	3 673	3	2	7	
Establishments with —												
100 percent specialization	14	338	3 558	11 400	11 400	10 947	6 980	453	(W)	(W)	(W)	
90 to 99 percent specialization	13	636	21 074	56 069	53 593	(D)	39 408	(D)	(W)	(W)	(D)	
80 to 89 percent specialization	8	98	3 790	9 482	7 718	(D)	7 157	(D)	(W)	(W)	(D)	
70 to 79 percent specialization	*14	201	6 328	12 878	9 287	12 603	10 464	*275	21	8	41	
60 to 69 percent specialization	13	340	11 068	38 340	23 257	37 333	24 647	1 007	9	9	23	
51 to 59 percent specialization	10	115	5 434	10 143	5 557	(D)	7 807	(D)	(W)	(W)	(D)	
OFFICE BUILDINGS												
All establishments specializing in type	450	11 797	383 432	1 156 977	854 836	1 131 147	801 314	25 829	1	1	1	
Establishments with —												
100 percent specialization	47	801	24 198	(D)	(D)	(D)	43 056	(D)	2	(D)	(D)	
90 to 99 percent specialization	22	2 310	76 849	(D)	(D)	(D)	154 420	(D)	2	(W)	(W)	
80 to 89 percent specialization	19	1 577	45 312	129 005	103 663	124 303	90 636	4 702	(W)	(W)	(W)	
70 to 79 percent specialization	67	2 489	77 907	228 567	170 537	222 001	156 747	6 566	(W)	(W)	(W)	
60 to 69 percent specialization	217	2 690	88 434	317 191	203 412	315 753	210 707	1 438	2	2	(W)	
51 to 59 percent specialization	76	1 928	70 730	201 918	108 227	198 342	145 747	3 576	1	1	(W)	
OTHER COMMERCIAL BUILDINGS SUCH AS STORES, RESTAURANTS, AND AUTOMOBILE SERVICE STATIONS												
All establishments specializing in type	180	2 114	55 477	168 769	155 715	155 962	114 155	12 806	5	6	11	
Establishments with —												
100 percent specialization	112	1 418	35 577	111 744	111 744	102 600	72 856	9 143	6	9	12	
90 to 99 percent specialization	17	161	2 828	8 501	7 922	7 119	6 378	1 382	25	25	27	
80 to 89 percent specialization	16	279	9 489	26 678	21 928	(D)	20 886	(D)	(W)	(W)	(D)	
70 to 79 percent specialization	11	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	
60 to 69 percent specialization	*19	*68	*2 055	*6 712	*4 363	*5 047	*4 325	*1 665	56	56	56	
51 to 59 percent specialization	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	
INDUSTRIAL BUILDINGS												
All establishments specializing in type	955	18 167	485 870	1 425 212	1 294 643	1 183 928	923 338	241 283	2	2	2	
Establishments with —												
100 percent specialization	817	12 965	342 445	979 543	979 543	841 470	654 530	138 073	2	3	3	
90 to 99 percent specialization	43	958	21 369	52 719	49 225	46 362	36 412	6 357	7	7	4	
80 to 89 percent specialization	29	745	16 157	41 582	34 293	(D)	32 217	(D)	2	3	(D)	
70 to 79 percent specialization	33	1 583	50 614	120 871	88 047	109 517	97 809	11 354	(W)	(W)	(W)	
60 to 69 percent specialization	23	1 440	40 988	196 642	125 363	(D)	75 975	(D)	3	1	(D)	
51 to 59 percent specialization	8	475	14 298	33 854	18 169	30 290	26 393	3 564	5	4	2	
HOSPITALS AND INSTITUTIONAL BUILDINGS												
All establishments specializing in type	23	243	6 991	21 189	15 240	20 649	16 007	540	(W)	(W)	(W)	
Establishments with —												
100 percent specialization	4	70	1 666	4 850	4 850	(D)	3 941	(D)	(W)	(W)	(D)	
90 to 99 percent specialization	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	
80 to 89 percent specialization	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	
70 to 79 percent specialization	3	3	117	492	364	492	450	-	(W)	(W)	-	
60 to 69 percent specialization	9	139	4 121	11 380	7 137	(D)	8 645	(D)	(W)	(W)	(D)	
51 to 59 percent specialization	5	26	(D)	3 226	1 773	(D)	2 627	(D)	(W)	(W)	(D)	
BLAST FURNACES, PETROLEUM REFINERIES, AND CHEMICAL COMPLEXES												
All establishments specializing in type	73	1 326	36 779	103 673	97 461	92 004	68 802	11 669	7	7	4	
Establishments with —												
100 percent specialization	65	848	23 090	80 877	80 877	(D)	47 882	10 956	8	8	5	
90 to 99 percent specialization	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-	(D)	-	
80 to 89 percent specialization	-	-	-	-	-	-	-	-	-	-	-	
70 to 79 percent specialization	*3	*98	*1 874	*5 750	*4 183	(D)	*4 750	(S)	62	45	(S)	
60 to 69 percent specialization	2	(D)	(D)	-	-	-	-	(D)	(D)	(D)	-	
51 to 59 percent specialization	-	-	-	-	-	-	-	-	-	-	-	

Table 9. Quarterly Construction Worker Hours and Employment for Establishments With

[Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of establishment	Number of establishments	Average number of construction workers	Construction worker hours (thousands)	January to March		April to June	
				Construction workers ¹	Hours worked (thousands)	Construction workers ¹	Hours worked (thousands)
	A	B	C	D	E	F	G
United States -----	3 777	50 244	91 269	50 527	22 456	49 840	22 425
Alabama -----	61	1 079	1 735	929	386	1 070	409
Alaska -----	8	34	65	38	16	41	19
Arizona -----	51	436	657	364	138	461	164
Arkansas -----	38	461	781	420	165	562	216
California -----	349	4 366	7 955	4 648	2 038	4 336	1 988
Colorado -----	43	484	780	680	234	374	165
Connecticut -----	59	636	1 252	703	339	649	319
Delaware -----	19	201	388	230	101	207	99
District of Columbia -----	4	(D)	123	96	37	84	(D)
Florida -----	180	2 076	3 416	2 084	840	2 072	852
Georgia -----	136	1 516	3 049	1 537	703	1 433	717
Hawaii -----	28	264	418	250	94	279	108
Idaho -----	*23	62	153	60	36	61	37
Illinois -----	208	3 134	5 345	2 954	1 267	2 961	1 305
Indiana -----	74	1 238	2 189	1 163	496	1 176	504
Iowa -----	72	523	919	513	203	505	240
Kansas -----	45	1 024	2 025	1 095	526	1 028	505
Kentucky -----	54	843	1 443	812	327	828	348
Louisiana -----	80	863	1 488	900	392	931	399
Maine -----	17	120	193	114	42	114	48
Maryland -----	92	1 340	2 330	1 269	558	1 432	573
Massachusetts -----	85	1 308	2 504	1 251	590	1 311	634
Michigan -----	173	2 402	4 263	2 524	1 119	2 399	1 009
Minnesota -----	66	772	1 324	755	317	705	313
Mississippi -----	29	368	784	332	164	355	194
Missouri -----	62	638	1 314	649	319	616	306
Montana -----	*17	70	84	64	21	64	21
Nebraska -----	27	289	461	275	109	294	111
Nevada -----	12	92	164	147	62	72	31
New Hampshire -----	11	117	245	119	61	128	66
New Jersey -----	130	2 370	4 337	2 496	1 158	2 359	1 058
New Mexico -----	8	39	72	37	18	39	16
New York -----	268	5 433	9 657	5 502	2 384	5 359	2 400
North Carolina -----	95	1 085	2 220	1 142	571	1 061	534
North Dakota -----	11	91	183	94	48	90	46
Ohio -----	149	2 149	4 021	2 118	972	2 124	983
Oklahoma -----	29	217	382	233	99	202	90
Oregon -----	65	710	1 356	841	395	750	355
Pennsylvania -----	134	2 949	5 253	2 743	1 168	3 023	1 308
Rhode Island -----	8	81	161	90	46	80	39
South Carolina -----	45	569	1 049	501	231	542	249
South Dakota -----	21	*114	*257	*117	*63	*115	*64
Tennessee -----	87	1 424	2 603	1 522	651	1 476	678
Texas -----	305	2 802	5 206	2 881	1 250	2 832	1 335
Utah -----	21	117	201	136	61	111	48
Vermont -----	*17	*53	*127	*41	*23	*42	*23
Virginia -----	60	961	1 804	808	427	1 060	451
Washington -----	88	576	1 068	719	307	513	251
West Virginia -----	21	164	312	168	83	161	77
Wisconsin -----	66	1 449	3 076	1 331	763	1 319	654
Wyoming -----	*11	(S)	(S)	(S)	(S)	(S)	(D)

¹Construction workers during pay periods including 12th of March, May, August, and November.

Payroll by State: 1987

July to September		October to December		Relative standard error of estimate (percent) for column—											Location of establishment	
Construction workers ¹	Hours worked (thousands)	Construction workers ¹	Hours worked (thousands)	B	C	D	E	F	G	H	I	J	K			
H	I	J	K													
50 641	23 282	49 986	23 105	1	1	1	1	1	1	1	1	1	1	1	U.S.	
1 193	472	1 124	467	3	3	4	3	4	3	3	3	2	5	5	AL	
29	14	30	13	(W)	4	(W)	6	(W)	5	(W)	1	(W)	4	4	AK	
532	196	387	157	15	13	13	12	17	12	19	14	13	13	13	AZ	
459	207	404	192	7	11	11	8	6	12	7	16	6	12	12	AR	
4 223	1 932	4 260	1 996	2	3	3	5	2	3	2	3	2	4	4	CA	
434	192	450	186	7	2	5	2	7	2	7	2	8	2	2	CO	
585	288	609	304	5	8	5	8	5	7	5	8	4	9	9	CT	
202	92	165	94	2	1	7	1	(W)	1	(W)	(W)	(W)	1	1	1	DE
(D)	31	(D)	(D)	(W)	(W)	(W)	(W)	(W)	(D)	(D)	(W)	(D)	(D)	(D)	DC	
2 135	900	2 023	822	5	6	6	6	5	6	5	5	5	5	5	5	FL
1 490	772	1 603	855	3	6	3	5	3	5	3	6	3	7	7	GA	
272	111	257	103	17	8	18	7	17	9	18	9	16	9	9	HI	
64	39	66	39	33	36	34	38	34	37	32	36	31	35	35	ID	
3 233	1 389	3 389	1 383	4	3	2	2	2	3	3	5	4	5	5	5	IL
1 433	662	1 181	526	3	5	3	3	5	3	3	4	4	3	3	3	IN
587	256	487	219	10	14	9	12	9	15	12	18	9	14	14	IA	
1 090	534	882	458	5	8	3	5	5	7	9	15	3	6	6	KS	
836	367	899	399	4	3	3	3	3	4	4	4	3	3	3	KY	
771	339	849	357	7	7	12	15	6	6	8	6	8	8	10	LA	
125	50	128	50	25	33	26	31	24	34	25	34	27	32	32	ME	
1 324	597	1 335	600	4	8	5	7	4	7	5	8	5	8	8	MD	
1 320	633	1 350	645	2	4	2	4	2	5	2	4	3	4	4	MA	
2 283	1 007	2 403	1 127	3	3	3	3	3	4	4	4	5	4	4	MI	
772	325	856	368	4	4	3	3	3	3	5	4	3	6	6	MN	
400	216	386	209	5	12	2	6	4	12	8	15	6	15	15	MS	
692	378	596	308	7	11	4	8	8	9	13	19	5	8	8	MO	
74	20	80	19	29	(W)	23	(W)	23	(W)	30	(W)	37	(W)	37	MT	
304	123	284	116	6	9	6	9	6	8	5	10	6	8	8	NE	
76	37	76	33	(W)	2	(W)	1	(W)	3	(W)	3	(W)	2	2	NV	
112	59	110	57	13	17	13	17	14	18	12	15	14	19	19	NH	
2 310	1 051	2 314	1 069	1	3	1	3	1	(W)	(W)	(W)	(W)	1	3	3	NJ
41	17	41	19	(W)	2	(W)	2	(W)	1	2	2	(W)	1	4	4	NM
5 513	2 468	5 357	2 404	2	2	2	2	2	1	2	2	2	1	2	2	NY
1 061	549	1 078	564	6	10	8	10	7	10	6	11	6	9	9	NC	
97	46	85	43	16	23	16	22	13	20	18	26	18	25	25	ND	
2 205	1 035	2 152	1 030	2	4	2	3	2	4	3	5	2	4	4	4	OH
235	101	198	91	6	3	9	11	4	2	6	2	4	2	4	2	OK
573	282	678	323	9	12	17	21	8	14	10	10	5	11	11	OR	
3 054	1 378	2 975	1 397	1	2	1	2	1	2	1	2	2	3	1	2	PA
77	37	79	38	16	22	18	23	15	21	16	22	15	21	21	21	RI
618	296	617	271	9	9	8	9	8	10	10	10	10	8	8	8	SC
*106	*63	*119	*66	59	71	57	71	58	71	63	72	56	69	69	69	SD
1 353	631	1 338	641	1	3	2	3	1	2	1	3	1	3	3	3	TN
2 815	1 386	2 680	1 233	6	6	6	6	6	6	5	6	6	6	6	6	TX
103	44	119	48	11	9	17	16	12	8	2	6	6	12	10	10	UT
*69	*42	*61	*37	55	60	56	62	55	62	58	61	54	57	57	57	VT
979	438	998	487	4	3	3	3	5	3	4	3	3	4	4	4	VA
532	247	543	262	9	12	17	19	10	12	9	12	9	13	13	13	WA
163	69	167	81	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	WV
1 548	824	1 597	835	3	5	3	5	1	5	1	5	3	3	7	7	WI
(S)	(S)	(S)	(D)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(D)	(D)	(D)	WY

Table 10. Value of Construction Work for Establishments With Payroll by Location of Construction Work: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of construction work	1987						1982 construction receipts for work done in this State ¹	Percent change 1987 (col A) to 1982 (col F)	Relative standard error of estimate (percent) for column—						
	Value of construction work done in this State ¹	Construction work done by establishments located in this State		Construction work done by establishments not located in this State											
		Number	Value of construction work	Number	Value of construction work	A	B	C	D	E	F	G	A	C	E
United States	5 359 826	3 720	4 526 494	2 628	833 331	4 189 275	27.9	1	1	1	1	1	1	1	1
Alabama	69 176	60	49 791	72	19 385	58 022	19.2	2	2	2	2	2	2	2	2
Alaska	12 420	8	7 220	8	*5 200	15 967	-22.2	21	(W)	21	21	21	21	21	50
Arizona	32 902	51	30 145	13	2 756	18 589	77.0	7	7	7	7	7	7	7	7
Arkansas	26 784	37	22 428	26	4 356	39 194	-31.7	6	6	6	6	6	6	6	6
California	535 202	349	507 743	82	27 459	358 362	49.3	2	2	2	2	2	2	2	2
Colorado	41 648	40	36 839	27	4 808	70 230	-40.7	3	4	4	4	4	4	4	4
Connecticut	78 219	58	70 638	49	7 581	94 372	-17.1	4	4	4	4	4	4	4	4
Delaware	21 736	*18	14 166	42	7 569	24 377	-10.8	2	2	2	2	2	2	2	2
District of Columbia	28 634	4	6 558	53	22 076	35 414	-19.1	1	(W)	1	1	1	1	1	1
Florida	234 383	177	183 647	56	50 735	169 733	38.1	5	6	6	6	6	6	6	6
Georgia	164 795	132	120 897	86	43 898	115 779	42.3	4	5	5	5	5	5	5	5
Hawaii	35 094	28	(D)	1	(D)	31 775	10.4	10	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Idaho	11 361	*23	5 573	13	5 788	10 340	9.9	9	17	(W)	(W)	(W)	(W)	(W)	(W)
Illinois	329 551	207	278 166	138	51 385	207 560	58.8	2	2	2	2	2	2	2	2
Indiana	133 404	73	99 074	87	34 329	62 322	114.1	2	2	2	2	2	2	2	2
Iowa	41 283	66	36 568	36	4 715	45 430	-9.1	6	7	7	7	7	7	7	7
Kansas	55 722	43	42 023	24	13 698	32 148	73.3	10	13	(W)	(W)	(W)	(W)	(W)	(W)
Kentucky	75 188	51	54 834	55	20 354	47 915	56.9	3	3	3	3	3	3	3	3
Louisiana	75 478	80	67 604	26	7 874	101 910	-25.9	3	3	3	3	3	3	3	3
Maine	18 888	17	13 966	41	4 921	13 196	43.1	19	24	24	24	24	24	24	24
Maryland	122 783	86	108 054	78	14 729	84 704	45.0	3	3	3	3	3	3	3	3
Massachusetts	156 531	85	137 907	54	18 624	102 108	53.3	3	3	3	3	3	3	3	3
Michigan	237 110	171	201 788	62	35 321	148 609	59.6	2	2	2	2	2	2	2	2
Minnesota	111 797	66	85 808	47	25 988	78 527	42.4	2	2	2	2	2	2	2	2
Mississippi	60 298	28	38 980	60	21 317	21 469	180.9	19	29	29	29	29	29	29	29
Missouri	63 365	59	51 299	67	12 065	84 405	-24.9	5	7	7	7	7	7	7	7
Montana	7 572	*16	5 199	7	2 373	4 605	64.4	21	30	(W)	(W)	(W)	(W)	(W)	(W)
Nebraska	25 236	27	19 426	41	5 810	17 844	41.4	6	5	5	5	5	5	5	5
Nevada	20 650	12	14 291	23	6 358	18 004	14.7	2	(W)	(W)	(W)	(W)	(W)	(W)	(W)
New Hampshire	16 353	11	9 552	50	6 800	7 943	105.9	7	12	5	5	5	5	5	5
New Jersey	258 480	127	226 328	123	32 151	142 866	80.9	2	3	5	5	5	5	5	5
New Mexico	9 232	8	5 082	18	4 150	18 344	-49.7	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)
New York	655 790	267	589 036	131	66 753	509 945	28.6	1	2	2	2	2	2	2	2
North Carolina	116 573	95	85 179	72	31 393	57 962	101.1	11	15	8	8	8	8	8	8
North Dakota	11 601	11	10 530	5	1 070	10 587	9.6	10	11	(W)	(W)	(W)	(W)	(W)	(W)
Ohio	227 055	148	198 503	111	28 552	168 025	35.1	1	1	2	2	2	2	2	2
Oklahoma	26 698	29	22 052	49	4 645	57 472	-53.5	5	5	5	5	5	5	5	5
Oregon	59 715	65	53 995	45	5 720	49 123	21.6	3	3	3	3	3	3	3	3
Pennsylvania	261 436	133	232 899	122	28 536	248 559	5.2	1	2	1	1	2	1	2	1
Rhode Island	15 364	8	11 333	24	4 030	12 214	25.8	13	17	5	5	5	5	5	5
South Carolina	52 036	45	32 140	72	19 895	45 050	15.5	1	1	1	1	1	1	1	1
South Dakota	3 643	12	3 503	9	139	3 578	1.8	17	17	(W)	(W)	(W)	(W)	(W)	(W)
Tennessee	114 023	86	97 431	65	16 592	74 536	53.0	1	1	1	1	1	1	1	1
Texas	282 277	305	249 929	70	32 348	403 663	-30.1	3	3	(W)	(W)	(W)	(W)	(W)	(W)
Utah	12 899	21	10 898	*13	*2 001	12 041	7.1	11	8	54	54	54	54	54	54
Vermont	7 152	*17	5 969	17	1 182	2 686	166.3	28	33	4	4	4	4	4	4
Virginia	111 994	60	85 582	124	26 411	70 575	58.7	2	1	8	8	8	8	8	8
Washington	66 310	86	61 706	32	4 604	71 743	-7.6	2	2	16	16	16	16	16	16
West Virginia	33 389	21	15 428	40	17 961	32 913	1.4	(W)	(W)	1	1	1	1	1	1
Wisconsin	187 713	66	172 677	39	15 036	74 323	152.6	2	2	(D)	(D)	(D)	(D)	(D)	(D)
Wyoming	2 858	*11	(D)	7	(D)	2 192	30.4	20	(D)	(D)	(D)	(D)	(D)	(D)	(D)

¹In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

Table 11. Dollar Value of Business Done for Establishments With Payroll by Kind of Business Activity: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. Based on their primary business activity or combination of activities, establishments were classified into this specific industry. These establishments, however, may also be engaged in other kinds of business activities. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Primary and other kinds of business activities	Dollar value of business done ¹		Relative standard error of estimate (percent)	
	1987	1982	1987	1982
All kinds of business.....	5 502 934	4 255 801	1	(W)
General building contractor.....	91 847	18 213	3	3
Heavy construction.....	40 935	36 780	1	1
Mechanical contractor.....	9 577	(S)	4	(S)
Plumbing contractor.....	4 528	11 184	14	5
Steam fitting and piping contractor.....	8 988	(NA)	(W)	(NA)
Electrical contractor.....	10 731	15 478	7	2
Concrete construction.....	6 486	19 326	7	5
Structural steel erection contractor.....	66 530	26 185	2	3
Excavation contractor, for buildings.....	7 621	11 162	9	3
Foundation contractor, digging of.....	22 375	(S)	3	(S)
Wrecking and demolition construction.....	14 889	(S)	2	(S)
Elevator contractor.....	2 853 841	2 308 761	(W)	(W)
Escalator contractor.....	152 002	209 929	1	2
Millwright.....	1 886 823	1 280 335	2	1
Other construction activities.....	140 066	(S)	4	(S)
Engineering services.....	4 316	11 862	18	1
Manufacturing.....	16 385	16 748	9	2
Rental of construction machinery or equipment to others.....	18 160	9 645	4	5
Retail trade.....	14 666	10 684	5	7
Transportation.....	12 838	(S)	2	(S)
Wholesale trade.....	13 785	7 585	6	13
Other activities.....	56 212	(S)	2	(S)
Kind of business activity, n.s.k.....	49 333	(S)	3	(S)

¹In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

Table 12. Selected Industry Ratios for Establishments With Payroll: 1987 and 1982

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Selected statistics	1987	1982	Relative standard error of estimate (percent) for 1987
AVERAGE PER ESTABLISHMENT			
Number of employees**	16.5	16.0	2
Number of construction workers	13.3	13.1	2
Number of all other employees	3.2	(NA)	2
Payroll, all employees	\$1,000..	491.9	2
Payroll, construction workers	do..	383.2	2
Payroll, other employees	do..	108.6	2
Dollar value of business done	do..	1 457.0	2
Value of construction work ¹	do..	1 419.1	2
Cost of materials, components, supplies, and fuels	do..	378.6	2
Construction work subcontracted to others	do..	92.7	2
Rental cost for machinery, equipment, and buildings	do..	20.3	2
Capital expenditures, other than land	do..	13.0	3
Gross book value of depreciable assets	do..	113.1	3
AVERAGE PER EMPLOYEE			
Payroll, all employees	do..	29.9	(W)
Dollar value of business done	do..	88.5	1
Value added††	do..	59.9	1
AVERAGE PER CONSTRUCTION WORKER			
Payroll, construction workers	do..	28.8	(W)
Value of construction work ¹	do..	106.7	1
Construction worker hours	1 816.5	1 677.2	1
AVERAGE PER OTHER EMPLOYEE			
Payroll, other employees	\$1,000..	34.5	(NA)
AVERAGE PER DOLLAR VALUE OF CONSTRUCTION WORK¹			
Payroll, all employees	.347	.346	(W)
Cost of materials, components, supplies, and fuels	.267	.259	(W)
Cost of construction work subcontracted to others	.065	.052	1
Rental cost for machinery, equipment, and buildings	.014	.010	1

¹In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

Table 13. Selected Industry Ratios for Establishments With Payroll by State: 1987

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of establishment	Average number of employees** per establishment	Payroll per employee (\$1,000)	Construction worker hours per construction worker	Value of construction work per construction worker (\$1,000)	Average per dollar of value of construction work			
					Payroll, all employees	Cost of materials, components, supplies, and fuels	Cost of construction work subcontracted to others	Rental cost for machinery, equipment, and buildings
United States	16.5	29.9	1 816.5	106.7	.347	.267	.065	.014
Alabama	20.3	22.2	1 608.0	63.4	.403	.252	.061	.022
Alaska	5.9	46.5	1 911.8	212.4	.302	.290	(D)	.011
Arizona	10.2	26.6	1 506.9	101.0	.314	(D)	.066	.012
Arkansas	13.8	18.5	1 694.1	64.2	.327	(D)	.060	.030
California	15.6	34.9	1 822.0	120.0	.362	.259	.046	.015
Colorado	14.7	27.9	1 611.6	109.5	.333	.279	.037	.027
Connecticut	13.9	33.7	1 968.6	126.6	.345	.298	.035	.012
Delaware	13.3	24.2	1 930.3	93.2	.325	(D)	.059	.011
District of Columbia	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Florida	20.9	25.9	1 645.0	101.3	.309	.364	.033	.012
Georgia	13.4	26.4	2 011.2	94.5	.336	.266	.047	.019
Hawaii	11.8	34.2	1 583.3	132.8	.323	.314	*.024	.008
Idaho	(D)	(D)	2 467.7	99.0	(D)	(D)	.052	.005
Illinois	18.4	30.2	1 705.5	98.9	.373	.261	.063	.016
Indiana	20.5	31.6	1 768.2	92.1	.422	.245	.058	.016
Iowa	9.5	22.1	1 757.2	87.3	.330	.368	.042	.011
Kansas	26.3	25.4	1 977.5	67.0	.438	(D)	*.101	.009
Kentucky	20.1	23.9	1 711.7	84.3	.364	.347	.079	.012
Louisiana	13.3	24.4	1 724.2	79.4	.380	.261	.022	.011
Maine	8.8	22.8	1 608.3	124.6	.228	.334	*.026	*.009
Maryland	18.2	31.2	1 738.8	105.2	.371	.296	.024	.012
Massachusetts	19.0	35.5	1 914.4	114.8	.382	.277	.032	.013
Michigan	17.0	30.9	1 774.8	109.6	.344	.194	.172	.015
Minnesota	14.8	29.8	1 715.0	114.3	.329	.327	.029	.013
Mississippi	15.0	26.0	2 130.4	114.1	.270	.316	.075	.014
Missouri	13.3	29.2	2 059.6	102.0	.369	.315	.023	.009
Montana	*4.9	24.9	1 200.0	110.0	.271	(D)	.022	.007
Nebraska	13.3	25.8	1 595.2	77.4	.414	.250	.027	.016
Nevada	10.1	42.9	1 782.6	162.8	.346	.301	(D)	.010
New Hampshire	14.7	37.3	2 094.0	144.0	.359	.312	(D)	.007
New Jersey	23.7	35.0	1 830.0	143.1	.319	.296	.071	.012
New Mexico	6.1	39.1	1 846.2	130.3	.377	.221	.005	.007
New York	25.9	31.8	1 777.5	110.5	.368	.254	.037	.013
North Carolina	13.9	23.8	2 046.1	104.4	.277	.279	.029	.011
North Dakota	10.7	29.7	2 011.0	120.6	.320	.329	.050	.011
Ohio	17.8	29.1	1 871.1	102.1	.352	.227	.067	.019
Oklahoma	9.6	27.2	1 760.4	104.6	.335	.225	.006	.014
Oregon	12.8	30.0	1 909.9	87.9	.399	(D)	.057	.019
Pennsylvania	26.3	32.5	1 781.3	116.1	.334	.197	.035	.019
Rhode Island	14.3	33.9	1 987.7	162.2	.294	(D)	.024	*.006
South Carolina	15.0	21.0	1 843.6	65.6	.380	.267	.046	.019
South Dakota	*6.1	*13.6	*2 254.4	*48.2	.317	.286	*.014	(D)
Tennessee	19.6	24.7	1 827.9	99.1	.299	.288	.137	.015
Texas	11.5	27.3	1 858.0	95.0	.360	.247	.022	.013
Utah	7.2	26.8	1 717.9	100.0	.348	.311	*.028	.018
Vermont	*4.0	*21.5	*2 396.2	*121.5	*.227	.319	*.058	(S)
Virginia	20.0	29.6	1 877.2	109.6	.337	.276	.051	.014
Washington	8.1	31.5	1 854.2	115.3	.340	.376	.048	.014
West Virginia	9.6	34.3	1 902.4	205.7	.205	.402	(D)	.005
Wisconsin	27.2	35.3	2 122.8	154.0	.284	.210	(D)	.011
Wyoming	(D)	(D)	(S)	(S)	(D)	(S)	(S)	(D)

APPENDIX A. Explanation of Terms

Construction—Is composed of three broad categories:

1. **New construction**—Includes the complete, original erection of structures and essential service facilities and the initial installation of integral equipment such as elevators, and plumbing, heating, and air-conditioning supplies and equipment.
2. **Additions, alterations or reconstruction**—Includes construction activity making structural changes to existing facilities. Generally, this type of activity is considered a capital investment in the property.
3. **Maintenance and repair**—Includes construction done for the purpose of upkeep of property rather than additional investment in the property.

Examples of the general distinction between maintenance and repair and reconstruction are provided here: roof repairs, including the replacement of shingles, gutters, etc., are classified under maintenance and repairs. A complete reroofing, however, is classified as reconstruction.

Number of establishments in business during year—Includes all establishments that were in business at any time during the year. It covers all full-year and part-year operations. Construction establishments which were inactive or idle for the entire year were not included.

Proprietors and working partners—These data were not collected on the census report forms. The data shown are based on crediting each sole proprietorship establishment with one active proprietor and each partnership establishment with two working partners.

All employees—Comprise all full-time and part-time employees on the payrolls of construction establishments, who worked or received pay for any part of the pay period including the 12th of March, May, August, and November. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included, but proprietors and partners of unincorporated firms are not.

All employees is the sum of all employees during the pay periods including the 12th of March, May, August, and November, divided by 4.

Construction workers—Includes all workers up through the working foreman level directly engaged in construction operations, such as painters, carpenters, plumbers, and electricians. Included are journeymen, mechanics, apprentices, laborers, truck drivers and helpers, equipment

operators, and on-site record keepers and security guards. Supervisory employees above the working foreman level are excluded from this category but are included in the "other employees" category.

Other employees—Includes employees in executive, purchasing, accounting, personnel, professional, technical activities, and routine office functions. Also included are supervisory employees above the working foreman level.

Construction worker hours—Includes the total number of hours worked by construction workers. Construction worker hours were collected for each of the four quarters of 1987.

Payroll—Includes the gross earnings paid in the calendar year 1987 to all employees on the payroll of construction establishments. It includes all forms of compensation such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation, but excludes payments to the proprietor or partners, if an unincorporated concern.

Employer costs for fringe benefits (supplemental labor costs)—Represents expenditures made by the employer during 1987 for legally required and voluntary fringe benefit programs for employees.

Legally required contributions—Include Social Security contributions, unemployment compensation, workman's compensation, and State temporary disability payments.

Voluntary payments—Include life insurance premiums, pension plans, insurance premiums on hospital and medical plans, welfare plans, and union negotiated benefits.

Dollar value of business done comprises the following detail:

Value of construction work done—Includes all value of construction work done during 1987 for construction work performed by general contractors, special trades contractors, subcontractors, and land development and improvement work. Included is new construction, additions and alterations or reconstruction, and maintenance and repair construction work. Also included is the value of any construction work done by the reporting establishments for themselves.

Builders were instructed to include the value of buildings and other structures built or being built for sale in 1987 but not sold. They were to include the costs of such construction plus normal profit. Also included is the cost of construction work done on buildings for rent or lease.

Establishments engaged in the sale and installation of such construction components as plumbing, heating, and central air conditioning supplies and equipment; lumber and building materials; paint, glass, and wallpaper; and electrical and wiring supplies, elevators or escalators, etc., were instructed to include both the value for the installation and the receipts covering the price of the items installed.

Excluded was the cost of industrial and other specialized machinery and equipment which are not an integral part of a structure.

Land receipts—Includes receipts from the sale of land, whether held for sale or sold in connection with the sale of houses and other structures. It excludes the value of any improvements made to the land prior to the sale. (That value was to be included in the value of construction work done.)

Other business receipts—Includes business receipts not reported as value of construction work done or land receipts. The item includes business receipts from retail and wholesale trade, rental of equipment, manufacturing, transportation, legal service, insurance, finance, rental of property and other real estate operations, and other nonconstruction activities. Receipts for separately definable architectural and engineering work for others are also included here.

Excluded was the value of construction work done and receipts from other business operations in foreign countries and non-operating income such as interest and dividends.

Net value of construction work—Derived for each establishment by subtracting the costs for construction work subcontracted to others from the value of construction work done. (For a further explanation see "Duplication in Value of Construction Work" section in the Introduction.)

Value added—Derived for each establishment, value added is equal to dollar value of business done, less costs for construction work subcontracted to others, and costs for materials, components, supplies and fuels. For SIC 6552 and SIC 1531, for which land receipts are significant, land receipts are also subtracted from dollar value of business done. (For a further explanation see "Duplication in Value of Construction Work" section in the Introduction.)

Selected costs—Represents the costs for materials, components, and supplies; costs for construction work subcontracted to others; and costs for selected power, fuels, and lubricants. Capital expenditures and rental costs for machinery, equipment, and structures are shown elsewhere.

Costs for materials, components, and supplies include:

- total costs to reporting establishments during 1987 for the purchase of all materials, components, and supplies, except fuels. (Supplies include expendable tools which are charged to current accounts.)
- freight and other direct charges should represent only amount paid after discounts, and the value of materials, components, and supplies obtained from other establishments of the respondent's company.
- costs for materials, components, and supplies used by the reporting establishments in the construction or reconstruction of buildings/structures for themselves which are chargeable to their fixed assets accounts, are included in this item as are costs for materials bought and resold to others.
- costs made for direct purchases of materials, components, and supplies even though the purchases were subsequently provided to subcontractors for their use.

Excluded from this item are:

- industrial and other specialized machinery and equipment, such as printing presses; computer systems; etc., which are not an integral part of a structure
- materials furnished to contractors by the owners of projects.

Costs for construction work subcontracted to others include:

- all costs during 1987 for construction work subcontracted out to other construction contractors.

Excluded from this item are:

- The costs to the reporting establishment for its purchases of materials, components, and supplies, provided to a subcontractor for his use. Such costs are reported under a separate category, "costs for materials, components, and supplies."
- costs for the rental of machinery or equipment.

Costs for selected power, fuels, and lubricants include:

- costs for fuels, lubricants, and electric energy purchased during the year from other companies, or received from other establishments of the company.
- costs for natural and manufactured gas, fuel oil, coal and coke products, etc.

Rental costs for machinery, equipment, and buildings—Includes all costs during 1987 for renting or leasing construction machinery and equipment, transportation equipment, production equipment, office equipment, furniture and fixtures, scaffolding, office space, and buildings. It

excludes costs for the rental of land. It also excludes costs under agreements which, in effect, are conditional sales contracts such as capital leases. Such costs are included in "capital expenditures."

Selected purchased services—Includes all costs during 1987 for communication services purchased from other companies or from other establishments of the company. It also includes the cost of all repairs made to structures and equipment by outside companies, or from other establishments of the same company. It includes only the cost of that repair necessary to maintain property and equipment. It excludes the cost of improvements that increase the value of property, or the cost of adapting it for another use. Such costs are included in "capital expenditures".

Assets and depreciation—Refers to the original cost of all fixed tangible assets such as buildings and other structures (offices, shops, etc.); stationary machinery (generators, shop equipment, etc.); mobile machinery (tractors, trucks, etc.); and other equipment (office furniture and fixtures, etc.). Not included are such items as current assets, depletable assets, intangible assets, and nondepreciable assets.

Data on assets and depreciation were collected separately for: (1) buildings and other structures, additions, and related facilities; and, (2) machinery and equipment.

Respondents were also asked to report capitalized expenditures, depreciation charges, and the gross value of assets sold, retired, scrapped, destroyed, etc., during 1987.

Capital expenditures—Refers to all costs actually incurred during 1987 which were or would be chargeable to the fixed assets accounts of the reporting establishments and which were of the type for which depreciation accounts are ordinarily maintained. These expenditures cover the acquisition, the construction, and the major alteration of the reporting establishment's own buildings and other structures, whether purchased, constructed under contract, or constructed by the reporting establishment's own forces; and the acquisition of machinery and equipment.

If leasing arrangements met the criteria set down by the Financial Accounting Standards Board (FASB) for a capital lease, respondents were instructed to report the original cost or market value of that equipment or building as a fixed asset and capital expenditure if acquired during 1987.

If capital expenditures were not recorded directly at the establishment level but handled centrally at the company or division level, respondents were requested to report appropriate estimates for the individual establishments.

Inventories—Includes all of the materials and supplies that are owned regardless of where they are held. Excludes materials which are owned by others, but held by the reporting establishment.

Builders who built on their own account for sale were requested to report work in progress and finished units not sold for buildings and other structures built for sale.

Inventories of multi-establishment companies were instructed to be reported by the establishment that is responsible for the inventories even if these inventories were held at a separate location.

Ownership of construction projects—This item shows the distribution of the value of construction work done by ownership of the project, that is, Government owned or privately owned. This classification relates to the ownership of the projects or work undertaken during the construction phase. Government owned projects are shown separately for Federal, and State and local governments.

Value of construction work subcontracted in from others—Includes the value of construction work during 1987 for work done by reporting establishments for other construction contractors or builders. Establishments were asked to report the approximate percent of total value of construction work accounted for by such work, and the percentages reported were applied to the reported value of construction work to develop a value for this item.

Types of construction—This item provides data by the types of buildings, structures, or other facilities being constructed or worked on by construction establishments in 1987. Respondents were instructed that each building, structure, or other facility should be classified in terms of its function. For example, a restaurant building was to be classified in the restaurant category whether it was designed as a commercial restaurant building or an auxiliary unit of an educational institution. If respondents worked on more than one type of building or structure in a multibuilding complex, they were instructed to report separately for each building or type of structure. If they worked on a building that had more than one purpose, i.e., office and residential, or commercial, they were to classify the building by major purpose.

In addition all respondents were requested to report the percentage of the value of construction work done for new construction, additions, alterations, or reconstruction, and maintenance and repair work for each of these types. See the definition of "Construction" for the meanings of these terms.

Building construction:

- **Single-family houses, detached**—Includes all residential buildings constructed for one family use.
- **Single-family houses, attached (include townhouses)**—Includes all residential buildings with two or more living quarters side by side, completely independent of one another, and separated by an unbroken wall from ground to roof.
- **Apartment buildings with two or more apartments**—Includes high-rise, low-rise, or any structures containing two or more housing units (excluding attached single-family houses and townhouses described above).
- **Hotels and motels**—Includes hotels, motels, and tourist cabins intended for transient accommodations.

- **Other residential buildings**—Includes dormitories, fraternity and sorority houses, nurses homes, and other nonhousekeeping residential structures.
- **Office buildings**—Includes all buildings which are used primarily for office space or for government administrative offices. Also included are banks or financial buildings which are three stories or more.
- **Other commercial buildings, such as stores, restaurants, and automobile service stations**—Includes all buildings which are intended for use primarily in the wholesale, retail, and service trades. For example, shopping centers, department stores, drug stores, restaurants, public garages, auto service stations, and one or two story bank or financial institutions.
- **Industrial buildings**—Includes all industrial buildings and plants which are used to house production and assembly activities. Heavy industrial facilities such as blast furnaces, petroleum refineries, chemical complexes, etc., are not included in this category, but under nonbuilding construction.
- **Warehouses**—Includes commercial warehouses, cold storage plants, grain elevators, mini-warehouses, and other such storage buildings.
- **Religious buildings**—Includes all buildings which are intended for religious services or functions, such as churches, synagogues, convents, monasteries, and seminaries.
- **Educational buildings**—Includes all buildings which are used directly in administrative and instructional activities, such as colleges, universities, elementary and secondary schools, correspondence, commercial, and trade schools. Libraries, museums, and art galleries, as well as laboratories which are not a part of a manufacturing establishment, are also included.
- **Hospitals and institutional buildings**—Includes all buildings which are intended to provide hospital and institutional care, such as clinics, infirmaries, sanitariums, nursing homes, homes for the aged, and orphanages.
- **Farm buildings, nonresidential**—Includes nonresidential farm buildings such as barns, poultry houses, implement sheds, and farm silos.
- **Amusement, social, and recreational buildings**—Includes buildings which are used primarily for entertainment, social and recreational activities, such as sports arenas, theaters, music halls, golf and country club buildings, skating rinks, bowling alleys, and indoor swimming pools.
- **Other nonresidential buildings**—Includes nonresidential buildings which are not classified elsewhere, such as fire stations, prisons, civic centers, bus and air passenger terminals and hangars.

Nonbuilding construction:

- **Highways, streets and related work, such as installation of guardrails, highway signs, etc.**—Includes streets, roads, alleys, sidewalks, curbs and gutters, culverts, right-of-way drainage, erosion control and lighting. Also includes earthwork protective structures when used in connection with road improvements.
- **Outdoor swimming pools**—Includes wading pools and reflecting pools.
- **Recreational facilities**—Includes athletic fields, golf courses, outdoor tennis courts, trails, and camps.
- **Bridges and elevated highways**—Includes viaducts and overpasses; roads, highways, railroads, and causeways built on structural supports.
- **Tunnels**—Includes highway, pedestrian, and railroad tunnels.
- **Railroad construction**—Includes the construction of railroad beds, tracks, freight yards, and signal towers.
- **Subway construction**—Includes urban mass transit subway systems above or below ground.
- **Dam and reservoir construction**—Includes hydroelectric, water supply, and flood control dams and reservoirs.
- **Marine construction**—Includes dredging, underwater rock removal, breakwaters, navigational channels, jetties, and locks.
- **Harbor and port facilities**—Includes docks, piers, and wharves.
- **Conservation and development construction**—Includes land reclamation, irrigation projects, drainage canals, levees, and flood control projects.
- **Power and communication transmission lines, towers, and related facilities**—Includes electric power lines, telephone and telegraph lines, fiber optic cables, cable television lines, television and radio towers, electric light and power facilities.
- **Power plants, except nuclear**—Includes electric and steam generating plants.
- **Power plants, nuclear**—Includes atomic energy plants, and nuclear reactors.
- **Sewers, sewerlines, and related facilities**—Includes sanitary and storm sewers, and related facilities.
- **Sewage treatment plants**—Includes sewage treatment and waste disposal plants.
- **Water mains and related facilities**—Includes water supply systems and related facilities.

- **Water treatment plants**—Includes water filtration and water softening plants.
- **Pipeline construction other than sewer or waterlines**—Includes pipelines for the transmission of gas, petroleum products, and liquefied gases.
- **Blast furnaces, petroleum refineries, chemical complexes, etc.**—Includes coke ovens, and mining appurtenances such as tipplers and washeries.
- **Other nonbuilding construction**—Includes all types of nonbuilding construction, not included elsewhere.

APPENDIX B.

Standard Industrial Classification Titles for Industry Groups and Industries

SIC code	Industry titles	SIC code	Industry titles
15	BUILDING CONSTRUCTION—GENERAL CONTRACTORS AND OPERATIVE BUILDERS	17	CONSTRUCTION—SPECIAL TRADE CONTRACTORS—Con.
152	General Building Contractors—Residential Buildings	173	Electrical Work Special Trade Contractors
1521	General Contractors—Single-Family Houses	1731	Electrical Work Special Trade Contractors
1522	General Contractors—Residential Buildings, Other Than Single-Family	174	Masonry, Stone Work Tile Setting, and Plastering Special Trade Contractors
153	Operative Builders	1741	Masonry, Stone Setting, and Other Stone Work Special Trade Contractors
1531	Operative Builders	1742	Plastering, Drywall, Acoustical, and Insulation Work Special Trade Contractors
154	General Building Contractors—Nonresidential Buildings	1743	Terrazzo, Tile, Marble, and Mosaic Work Special Trade Contractors
1541	General Contractors—Industrial Buildings and Warehouses	175	Carpentry and Floor Work Special Trade Contractors
1542	General Contractors—Nonresidential Buildings, Other Than Industrial Buildings and Warehouses	1751	Carpentry Work Special Trade Contractors
1542		1752	Floor Laying and Other Floor Work Special Trade Contractors, Not Elsewhere Classified
16	HEAVY CONSTRUCTION OTHER THAN BUILDING CONSTRUCTION—CONTRACTORS	176	Roofing, Siding, and Sheet Metal Work Special Trade Contractors
161	Highway and Street Construction, Except Elevated Highways	1761	Roofing, Siding, and Sheet Metal Work Special Trade Contractors
1611	Highway and Street Construction Contractors, Except Elevated Highways	177	Concrete Work Special Trade Contractors
162	Heavy Construction, Except Highway and Street Construction	1771	Concrete Work Special Trade Contractors
1622	Bridge, Tunnel, and Elevated Highway Construction Contractors	178	Water Well Drilling Special Trade Contractors
1623	Water, Sewer, Pipeline, and Communications and Powerline Construction	1781	Water Well Drilling Special Trade Contractors
1629	Heavy Construction, Not Elsewhere Classified	179	Miscellaneous Special Trade Contractors
17	CONSTRUCTION—SPECIAL TRADE CONTRACTORS	1791	Structural Steel Erection Special Trade Contractors
171	Plumbing, Heating, and Air-Conditioning Special Trade Contractors	1793	Glass and Glazing Work Special Trade Contractors
1711	Plumbing, Heating, and Air-Conditioning Special Trade Contractors	1794	Excavation Work Special Trade Contractors
172	Painting and Paper Hanging Special Trade Contractors	1795	Wrecking and Demolition Work Special Trade Contractors
1721	Painting and Paper Hanging Special Trade Contractors	1796	Installation or Erection of Building Equipment, Special Trade Contractors, Not Elsewhere Classified
		1799	Special Trade Contractors, Not Elsewhere Classified
		6552	LAND SUBDIVIDERS AND DEVELOPERS, EXCEPT CEMETERIES

APPENDIX C.

Geographic Divisions and States

NEW ENGLAND STATES

Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

MIDDLE ATLANTIC STATES

New Jersey
New York
Pennsylvania

EAST NORTH CENTRAL STATES

Illinois
Indiana
Michigan
Ohio
Wisconsin

WEST NORTH CENTRAL STATES

Iowa
Kansas
Minnesota
Missouri
Nebraska
North Dakota
South Dakota

SOUTH ATLANTIC STATES

Delaware
District of Columbia
Florida
Georgia
Maryland

SOUTH ATLANTIC STATES—Con.

North Carolina
South Carolina
Virginia
West Virginia

EAST SOUTH CENTRAL STATES

Alabama
Kentucky
Mississippi
Tennessee

WEST SOUTH CENTRAL STATES

Arkansas
Louisiana
Oklahoma
Texas

MOUNTAIN STATES

Arizona
Colorado
Idaho
Montana
Nevada
New Mexico
Utah
Wyoming

PACIFIC STATES

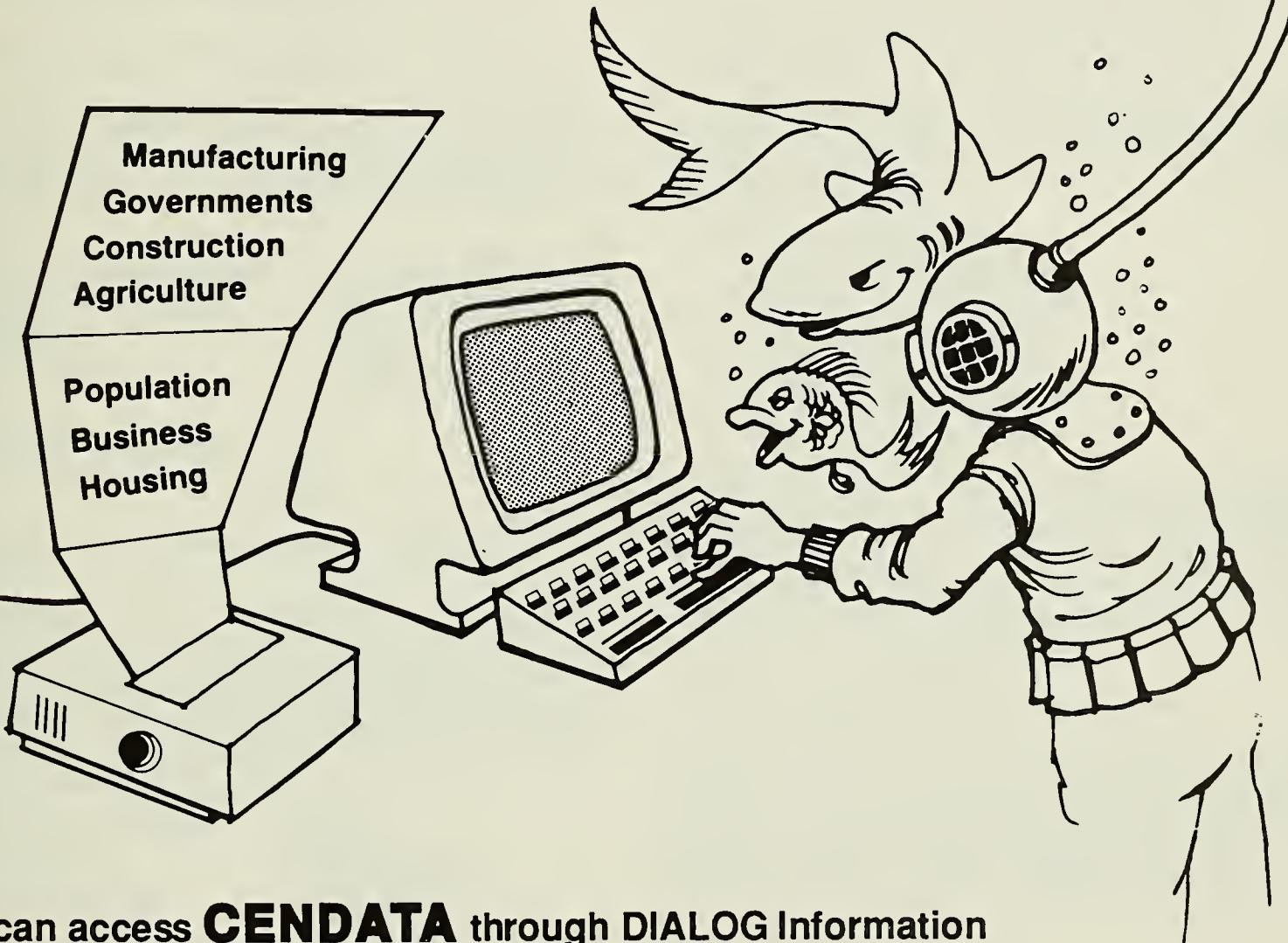
Alaska
California
Hawaii
Oregon
Washington

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PUBLICATION PROGRAM

1987 CENSUS OF CONSTRUCTION INDUSTRIES

The Census of Construction Industries is taken once every 5 years. The census covers all establishments engaged in construction, including:

- Building contractors
- Heavy construction contractors
- Special trade contractors (including plumbers, carpenters, painters, electricians)
- Land developers and subdividers

Data products in the Census of Construction Industries are issued in 4 publication series and in 3 other media:

- Printed reports [P]
- CD-ROM [C]
- Computer tape [T]
- Highlights online [+]

Preliminary Industry Series (CC87-I-1(P) through CC87-I-28(P))

(Available November 1988 through May 1989) [P]

Twenty-seven separate industry reports and a United States summary report, providing national statistics for establishments with payroll. Statistics shown for 1987 include:

- Number of establishments
- Number of employees
- Payroll
- Hours worked
- Value of construction work done, by type of structure
- Selected operating costs

Final Industry Series (CC87-I-1 through CC87-I-28)

(Available June 1989 through November 1989) [P] [C] [T] [+]

Twenty-seven separate industry reports and a United States summary report, providing statistics for the Nation and individual States on establishments with payroll. These reports update figures from the preliminary industry series (employment, payroll, value of construction, etc.) and provide measures of the following:

- Capital expenditures
- Inventories
- Industry profiles
- Assets
- Depreciation
- And much more

Geographic Area Series (CC87-A-1 through CC87-A-10)

(Available January 1990 through March 1990) [P] [C] [T] [+]

Nine reports on the construction industries, representing each census geographic division, and a United States summary report. Regional reports provide detailed data for States and metropolitan statistical areas.

Subject Report—Legal Form of Organization and Type of Operation (CC87-S-1)

(Available May 1990) [P]

One report providing selected national statistics for each industry by legal form of organization and type of operation. This report includes data for establishments with and without payroll. Data in this report include—

- Employment
- Payroll
- Value of construction work done
- Selected operating costs

OTHER ECONOMIC CENSUSES REPORTS

The Census of Construction Industries is part of the 1987 Economic Censuses. These are conducted at five-year intervals in years ending in 2 and 7 and consist of seven separate censuses:

- Census of Retail Trade
- Census of Wholesale Trade
- Census of Service Industries
- Census of Transportation
- Census of Manufactures
- Census of Mineral Industries
- Census of Construction

...plus several related programs: enterprise statistics; information on minority-owned and women-owned businesses; and the Census of Outlying Areas, including separate economic censuses of Puerto Rico and other outlying areas. The Census of Agriculture and Census of Governments are conducted separately.

HOW TO ORDER DATA PRODUCTS

Order forms for the specific reports and other data products may be obtained from Data User Services Division, Customer Services (Publications), Bureau of the Census, Washington, DC 20233. If you have any questions, call Census Customer Services 1-(301)-763-4100.



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